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September 29, 2016

CERTIFIED MAIL: 7004-2510-0004-6647-4316

Ms. Khrystie Vázquez
Project Manager
U.S. Environmental Protection Agency
City View Plaza II Building, 7th Floor, Suite 7000
#48 Rd. 165 Km. 1.2
Guaynabo, Puerto Rico 00968-8069

Re: SVE Pulsing Operations Progress Report No. 11, February to May 2016, Corrective Measure Study, Pfizer Pharmaceuticals LLC, Arecibo, Puerto Rico

Dear Ms. Vázquez:

On behalf of Pfizer Pharmaceuticals LLC please find attached the above referenced document in accordance with the requirements of the Revised Proposal for the Installation of Soil Vapor Extraction System (SVE) under a Corrective Measure Study and EPA approval letter of pulsing/cycling procedures dated April 20, 2010.

If you need additional information, please call us at your convenience.

Cordially,

José C. Agrelot, MSCE, PE
Project Officer

c: Ms. María A. Coronado, PREQB (Certified Mail 7004-2510-0004-6647-4323)
Mr. Adalberto Bosque, USEPA (via electronic mail)
Mr. William G. Gierke, Pfizer, Inc.

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SVE PULSING OPERATIONS PROGRESS REPORT NO. 11
FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

ERTEC JOB NO. E155384

Prepared for:

U.S. Environmental Protection Agency
City View Plaza II Building, 7th Floor, Suite 7000
#48 Rd. 165 Km. 1.2
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September 29, 2016

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FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Date Prepared: September 29, 2016

Period Covered: January 20 thru May 31, 2016

Project: Corrective Measure Study
Soil Vapor Extraction Operation & Maintenance
Pfizer Pharmaceuticals LLC

Prepared by: José C. Agrelot, PE, MSCE
Project Officer

1.0 INTRODUCTION

This progress report contains a summary of the soil vapor extraction (SVE) pulsing/cycling operations performed during an 4-month period from January 20 through May 31, 2016 at the former Pfizer site in Arecibo, Puerto Rico. The pulsing operating period (for this reporting period) was performed from extraction wells VMW-1, VMW-2, and VMW-3C. **Figure 1** presents the location of the SVE system with extraction and vacuum monitoring wells.

This report includes, among others, the following: a description of the work performed, a summary of data collected through the above mentioned period, data interpretation, and recommendations for the operation of the SVE system, if applicable.

2.0 BACKGROUND

Pulsing/cycling operations have been performed since February 2010 (SVE shutdown to initiate the off cycle period) with progress reports submitted for the following pulsing operational periods.

- March 2010 to August 2010
- September 2010 to February 2011
- March 2011 to November 2011
- December 2011 to June 2012
- July 2012 to December 2012
- January to June 2013
- July to January 2014
- February to August 2014
- September 2014 to April 2015
- May 2015 to January 2016
- February to May 2016

3.0 SYSTEM OPERATION

For the period from January 20 thru May 31, 2016, the SVE system was performed on a two (2) months on/off basis as described below:

- January 20 to April 1, 2016 (**system off** for 70 days)
- April 1 to May 31, 2016 (**system on** for 60 days)

SVE system extraction and/or vacuum monitoring wells details are summarized in the following table:

Well ID	Well Diameter (inches)	Well Depth (feet bgs)	Screen Interval (feet bgs)	Well Sump Interval (feet bgs)
VMW-1	2	150	145 to 150	NA
VMW-2	2	170	165 to 170	NA
VMW-3C	2	195	190 to 195	NA

Notes:
BGS Below ground surface
NA Not applicable

Well construction details diagrams for extraction and vacuum monitoring wells are included in **Appendix 1**.

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The following data was collected from the system during pulsing/cycling operation:

- Stabilization parameters during system start up;
- Vacuum gauge, flow rate and temperature readings from SVE system and extraction wells during system start up, and at the end of operating cycle;
- Flow rate and temperature readings from stack during system start up, and at the end of operating cycle;
- Organic Vapor Analyzer (OVA) readings after the activated carbon canister during system start up, and at the end of operating cycle.

SVE system measurements were collected with the bleeder valve partially open (as during normal operations) to maintain the blower unit operating within the manufacturer's recommended temperature range. OVA readings were collected with portable OVA equipped with a photoionization detector (PID). The instrument was calibrated daily. OVA readings were collected directly from the exhaust stack (Stack) sampling port of the SVE system.

3.1 Other Activities

- **February 11 and 12, 2016** – Verification of SVE system components (blower, particulate filter, moisture separator, vacuum/pressure gauges). Water level and well depth measurements of extraction wells VMW-1, VMW-2, VMW-3C and SVE-1. Water with sediment measured at 199.00 feet in SVE-1 and 194.50 feet in well VWM-3C. Wells flushed with distilled water to remove sediment. No sediment found in wells VMW-1 (150.86 feet deep) and VMW-2 (170.60 feet deep). Removed water/sediment and equipment decontamination water was containerized in one 15-gallon steel drum.
- **April 1, 2016** – A second carbon canister unit installed at system.
- **April 5, 2016** – Site visit for monitoring of system operational parameters monitoring (vacuum, pressure, temperature and flow rates).

4.0 SAMPLE COLLECTION ACTIVITIES

Vapor samples collected from each extraction well, inlet sampling port and the exhaust stack during this period were identified as described in the following table:

Date	Extraction Well Sample ID	Inlet Sample ID	Stack Sample ID	Field Duplicate ID	Trip Blank ID
01-Apr-2016	VMW-1-20 VMW-2-20 VMW-3C-20	INLET-20	STACK-20	SVE-A (duplicate of sample VMW-3C-20)	TB-040116
02-May-2016	VMW-1-21 VMW-2-21 VMW-3C-21	INLET-21	STACK-21		
31-May-2016	VMW-1-22 VMW-2-22 VMW-3C-22	INLET-22	STACK-22	SVE-A (duplicate of sample INLET-22)	TB-053116

Samples obtained during this pulsing/cycling period were collected in Summa canisters, stored and sealed in cardboard box for shipment via FedEx to Test America-Burlington in Vermont. Samples collected on May 2, 2016 were shipped on May 3, 2016 and delivered to the laboratory by FedEx on May 4, 2016. Samples collected on May 31, 2016 were shipped on June 1, 2016 and delivered at the laboratory by FedEx on June 2, 2016. Proper chain-of-custody documentation accompanied the samples to the laboratory. Copy of the chain-of-custodies is included in **Appendix 2**.

5.0 SUMMARY OF LABORATORY ANALYSES

Vapor samples collected during this pulsing/cycling period were analyzed for chloroform, carbon tetrachloride, acetone and methylene chloride following USEPA Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectometry (GC/MS)", January 1997. Laboratory deliverables were equivalent to Contract Laboratory Program Statement of Works (CLP SOWs) for organics.

Analytical results for samples obtained during this period were validated according to EPA Region II Standard Operating Procedure (Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," SOP HW-31, Revision 6, June, 2014). Eden Environmental, LLC from Baton Rouge, Louisiana performed the data validation.

A summary of validated analytical results for air samples collected from extraction wells VMW-1, VMW-2, and VMW-3C, INLET, and exhaust stack during this cycle operational period (April & May 2016), are provided in **Table 1**. Copies of the data validation reports are included in **Appendix 3**.

6.0 SUMMARY OF DATA FROM SVE SYSTEM OPERATION

Table 2 includes a summary of stabilization data obtained during start up of the SVE system on April 1, 2016. System stabilization parameters were collected prior to sampling activities. **Table 3** includes a summary of the operation and monitoring data (vacuum, pressure, flow rate, temperature readings from SVE system and OVA readings from exhaust stack) during extraction procedures on April & May 2016. **Figure 2** presents the SVE system lay-out.

7.0 DATA REDUCTION AND INTERPRETATION

The pulsing operating period (for this reporting period) was performed from extraction wells VMW-1, VMW-2, and VMW-3C for 60 days (1444 hours) from April 1 to May 31, 2016. SVE system was monitored on three (3) occasions during this pulsing operational period: one at the initial startup after stabilization (April 1, 2016), mid-operation monitoring (May 2, 2016) and one at the end of the period prior to shutdown (May 31, 2016). A site visit was performed on April 5, 2016 to monitored system operational parameters including vacuum, pressure, temperatures and flow rate readings. The following sections include a summary of the data collected.

7.1 SVE System Data Calculations

The following parameters were calculated from the data included in **Table 3**: vacuum, average airflow rate and total airflow rate and percent of operation time compared to total operating time for extraction wells VMW-1, VMW-2 and VMW-3C. This data was calculated based on four (4) readings for extraction wells VMW-1, VMW-2, VMW-3C during operating period in April & May 2016 as summarized in **Table 3**.

The average airflow rate and vacuum was obtained by adding the flow rate and vacuum readings per monitoring and divided by the number of days in which the readings were collected. The total airflow rate was obtained by multiplying the average flow rate by the total operating hours converted to minutes. **Table 3** included the average airflow rate and total airflow rate for extraction wells VMW-1, VMW-2 and VMW-3C. A summary of these parameters for each extraction well is presented below:

April 1 to May 31, 2016 (60 days; 100% operation)

Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)	Average Vacuum Extraction Well (in H_2O)	Average Vacuum Intake Blower (in H_2O)
VMW-1	8.53	739,039	10	32
VMW-2	14.25	1,234,620	12.5	
VMW-3C	23.11	2,002,250	17.8	

7.2 Removal Rate Calculation

The removal and emission rate is calculated using the laboratory results in milligrams per liter (mg/L) in air for each compound detected times the air flow rate. The relation used for this calculation is:

$$R = Q \times C$$

where: R = removal rate (lbs/hr)
Q = air flow rate (ft^3/min; ACFM)
C = compound concentration (mg/L)

As airflow rate and compound concentration are the only two variables in this equation, it was simplified as follows:

$R = ft^3/min \times mg/L \times 60\ min/hr \times 28.32\ L/\ ft^3 \times 1lbs/453.6 \times 10^3$

$R = (ft^3/min \times mg/L)/266.95$

Where:	R	=	removal rate in lbs/hr
	ft^3/min	=	air velocity measured at time of sample collection
	mg/L	=	detected concentration of each compound analyzed
	266.95	=	constant resulting from the reduction of conversion factors in the equation

The rate of removal in lbs/hr for each compound detected at VMW-1, VMW-2, and VMW-3C for the operating period of April & May 2016 is summarized in **Table 4**. The rate of removal in lbs/hr for each compound detected at the exhaust stack during this period is summarized in **Table 5**. The resulting data in lbs/hr of compound removed, and emitted to the atmosphere is then multiplied by 24 to obtain the estimated mass in pounds per day (lbs/day).

The daily rate of mass removal and air emissions was calculated based on the laboratory results presented in **Table 1**. **Table 4** presents the daily rate of mass removal for each compound from the SVE system during extraction procedures from wells VMW-1, VMW-2, and VMW-3C, respectively. **Table 5** presents the daily rate of emission of VOCs to the atmosphere during operation of wells VMW-1, VMW-2, and VMW-3C. These daily rates are calculated for the day samples were collected. A total amount of VOCs emitted from the exhaust stack in lbs/hr and lbs/day is included on the last two columns in **Table 5**.

The amount of VOCs removed from the subsurface through extraction wells VMW-1, VMW-2, and VMW-3C during operating period include in this report are summarized in the following tables:

April 1 to May 31, 2016 (60 days; 1444 hours)

EXTRACTION WELL	Acetone Removal (lbs)	Methylene chloride Removal (lbs)	Chloroform Removal (lbs)	CCl_4 Removal (lbs)	Total Removal (lbs)
VMW-1	0.0	0.0	0.3397	16.3222	16.6619
VMW-2	0.0	0.0	0.4488	13.6547	14.1035
VMW-3C	0.0	0.0	1.6389	47.8932	49.5321
TOTAL VOCs	**0.0**	**0.0**	**2.4274**	**77.8701**	**80.2975**

Approximately 80 lbs of VOCs were removed (78 lbs of which was Carbon Tetrachloride) from the subsurface through wells VMW-1, VMW-2 and VMW-3C during the period of April & May 2016, respectively. A graph depicting cumulative mass removal in lbs. versus time for total VOCs removed from the SVE system during this period are included in **Appendix 4**.

Emissions from the SVE system are below the limits established by the Puerto Rico Environmental Quality Board (PREQB) at 3 lbs/hr or 15 lbs/day as indicated in **Table 5**.

8.0 SVE SYSTEM DOWNTIME AND CORRECTIVE ACTION

The SVE system was operated on a continuous basis during the pulsing/cycling period on April & May 2016. No water was found at the air/moisture separator during these operation periods.

9.0 SVE PULSING/CYCLING PROGRAM EVALUATION

Table 6 presents a summary of SVE system operation since February 2000 until February 2010 during non-pulsing period. **Table 7** includes a summary of SVE system operation during pulsing/cycling periods from February 2010 until May 2016. These tables include VOC Mass Removal for each extraction well. Graphs indicating the total VOC monthly extraction for each well and an updated graph showing cumulative mass removed for wells VMW-1, VMW-2 and VMW-3C for steady state determination are included in **Appendix 4**. The amount of mass removed during periods of operation since February 2010 (i.e. initiation of pulsing - off cyclingperiods) from extraction wells VMW-1, VMW-2 and VMW-3C is summarized below:

Operational Month	Mass Removed (lbs)	Reporting Period
April 2010	6.01	March to August 2010
June 2010	35.57	
August 2010	74.53	
October 2010	59.84	September 2010 to February 2011
December 2010	24.41	
February 2011	39.83	
April 2011	50.87	March to November 2011
June 2011	47.32	
August 2011	51.15	
November 2011	27.80	
February 2012	34.28	December 2011 to June 2012
April 2012	18.83	
June 2012	17.44	
August 2012	120.68	July to December 2012
October 2012	34.43	
December 2012	20.09	
February 2013	19.98	January to June 2013
April 2013	29.80	
June 2013	45.80	
August 2013	54.55	July 2013 to January 2014
October 2013	2.66	
Dec 2013 – Jan 2014	1.01	
February-March 2014	24.84	February to August 2014
May 2014	112.79	
August 2014	30.36	

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Operational Month	Mass Removed (lbs)	Reporting Period
October-November 2014	34.80	September 2014 to April 2015
January-February 2015	85.53	
April 2015	29.01	
June 2015	10.96	May 2015 to January 2016
August-September 2015	14.61	
Nov-Dec 2015/Jan 2016	64.79	
April-May 2016	80.30	February to May 2016
TOTAL	**1304.87**	

Emissions from the SVE system are consistently below the limits of 3 lbs/hr or 15 lbs/day.

9.1 Recommendations

Based on the data obtained during this 4-month period (February to May 2016) the following is recommended:

- Continue with the pulsing operational period of 60 days off and 60 days on during 2016.

10.0 MONITORING AND SAMPLING SCHEDULE

The SVE system was shutdown on May 31, 2016. A notification of a soil investigation at SVE area was provided to EPA by Pfizer on May 9, 2016 to evaluate modifications to SVE system, if required. Soil investigation activities began on August 23, 2016.

The next operational period is tentatively scheduled to begin in October or November 2016 (after completion of soil investigation activities and installation of additional SVE wells - as warranted based on investigation results). Monitoring and sampling activities will be performed during system start up, mid-operation and shutdown.

FIGURES

SVE PULSING OPERATIONS PROGRESS REPORT NO. 11
FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E155384

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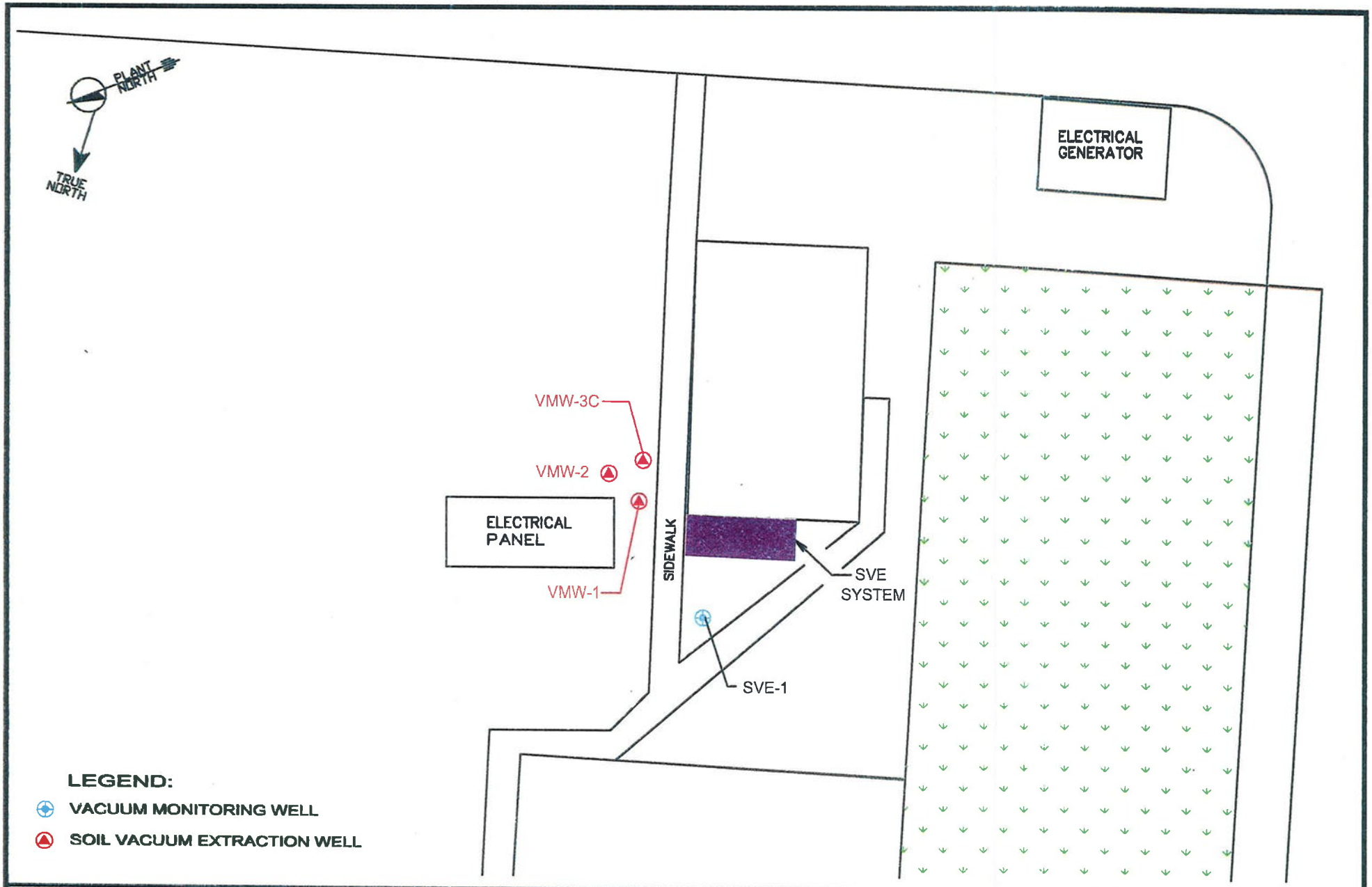

FIGURE 1 - SVE SYSTEM LOCATION
CORRECTIVE MEASURE STUDY
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

SCALE: NTS	DWG BY: EGN	REV.: WIM	FILE NO.: FIG 1	JOB NO.: E145288

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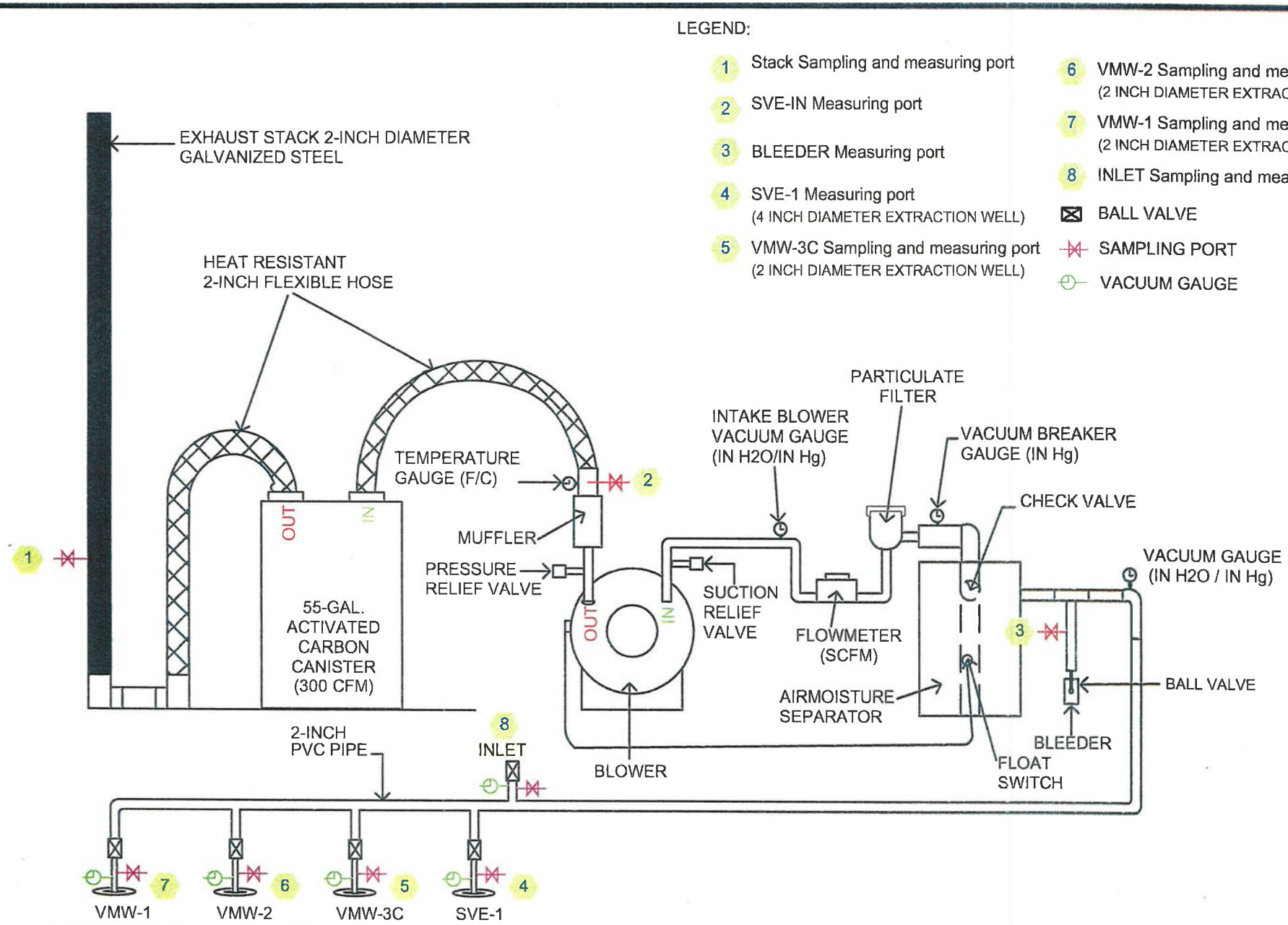

FIGURE 2 - SOIL VAPOR EXTRACTION CURRENT SYSTEM LAY-OUT
CORRECTIVE MEASURE STUDY
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

SCALE: NTS	DWG BY: EGN	REV.: WM	FILE NO.: FIG 2	JOB NO.: E145288

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P:\ERTEC NEW ARCHIVE BY EDH\9-PFIZER ARECIBO - UPJOHN\14-5288\FIG 2.dwg, 8/10/2015 1:43:24 PM, iR-ADV C7055

TABLES

SVE PULSING OPERATIONS PROGRESS REPORT NO. 11
FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E155384

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TABLE 1

AIR SAMPLES VALIDATED ANALYTICAL RESULTS - APRIL & MAY 2016
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Sample ID	Sample Location	Collection Date (day-mo-yr)	Acetone (ppbv)	Methylene chloride (ppbv)	Chloroform (ppbv)	Carbon tetrachloride (ppbv)
SVE System Start up Samples						
VMW-1-20	Extraction well	1-Apr-16	29000U	2900U	**3700**	**200,000**
VMW-2-20	Extraction well	1-Apr-16	14000U	1400U	**2300**	**76,000**
VMW-3C-20	Extraction well	1-Apr-16	8400U	840U	**3500**	**80,000**
SVE-A	Field duplicate of sample **VMW-3C-20**	1-Apr-16	10000U	1000U	**3400**	**79,000**
INLET-20	Extraction wells combined sampling port	1-Apr-16	16000U	1600U	**3600**	**110,000**
STACK-20	Stack outlet pipe	1-Apr-16	**6.8**	0.50U	0.20U	**0.18J**
TB-040116	Trip blank[1/]	1-Apr-16	5.0U	0.50U	0.20U	0.20U
SVE System Mid-operation Samples						
VMW-1-21	Extraction well	2-May-16	8800U	880U	**4600**	**72000**
VMW-2-21	Extraction well	2-May-16	5500U	550U	**2600**	**42000**
VMW-3C-21	Extraction well	2-May-16	5100U	510U	**1900**	**38000**
INLET-21	Extraction wells combined sampling port.	2-May-16	4200U	420U	**2400**	**43000**
STACK-21	Stack outlet pipe	2-May-16	360U	36U	**180**	**3600**
SVE System Shutdown Samples						
VMW-1-22	Extraction well	31-May-16	12000U	1200U	**3700**	**68000**
VMW-2-22	Extraction well	31-May-16	9500U	950U	**3000**	**53000**
VMW-3C-22	Extraction well	31-May-16	7100U	710U	**1900**	**45000**
INLET-22	Extraction wells combined sampling port.	31-May-16	9800U	980U	**2400**	**51000**
SVE-A	Field duplicate of sample **INLET-22**	31-May-16	8800U	880U	**2300**	**49,000**
STACK-22	Stack outlet pipe	31-May-16	1500U	150U	**230**	**5100**
TB-053116	Trip blank[1/]	31-May-16	5.0U	0.50U	0.20U	0.20U

Notes:

ppbv — Parts per billion per volume.

1/ — Trip blank provided by TestAmerica Laboratories.

U — The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J — The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.

TABLE 2

SVE START UP STABILIZATION DATA
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Operational Period: April 1 to May 31, 2016 (1444 hours/60 days) **SVE Start up Date/Time:** 01-Apr-16 / 10:44am

Reading Time	Extraction Well VMW-1			Reading Time	Extraction Well VMW-2			Reading Time	Extraction Well VMW-3C		
	Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)		Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)		Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)
12:40	8 / 0.6	599	96.3	12:43	10 / 0.7	803	99.3	12:46	22 / 1.6	1482	95.5
12:49	10 / 0.7	688	97.0	12:52	14 / 1.0	788	101.1	12:58	28 / 2.1	1496	96.3
12:59	10 / 0.7	749	96.8	13:03	14 / 1.0	812	102.1	13:09	28 / 2.1	1507	97.2

Reading Time	Inlet			Stack			Vacuum Breaker (inHg)	Intake Blower (inH_2O/inHg)	Flow Meter (ACFM)	Blower Temp. (°F)
	Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)	Flow Rate (ft/min)	Temp. (°F)	OVA (ppm)				
12:46	22 / 1.6	890	89.0	5691	102.2	0.0	2.0	30 / 2.2	108	130.0
12:58	28 / 2.1	995	92.6	5699	105.7	0.0	2.0	32 / 2.4	108	132.0
13:09	28 / 2.1	1014	99.9	5730	106.7	0.0	2.0	32 / 2.4	108	132.0

Notes:

in Hg	Inches of mercury.
in H_2O	Inches of water.
ft/min	Feet per minute.
ACFM	Actual cubic feet per minute.
°F	Degrees Farenheit.
OVA	Organic vapor analyzer.
ppm	Parts per million.

TABLE 3

SVE OPERATION DATA
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Operational Period: April 1 to May 31, 2016 (1444 hours/60 days)

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Vacuum Reading		VMW-2 Vacuum Reading		VMW-3C Vacuum Reading		INLET Vacuum Reading		Vacuum Breaker	Intake Blower		SVE-1 Vacuum Reading	SVE-IN Pressure Reading	
					(in H_2O)	(in Hg)	(in H_2O)	(in Hg)	(in H_2O)	(in Hg)	(in H_2O)	(in Hg)	(in Hg)	(in H_2O)	(in Hg)	(in H_2O)	(in H_2O)	(psi)
1-Apr-16	10:44		13:11	Partial	10	0.7	14	1.0	28	2.1	28	2.1	1.5	32	2.3	0.00	18.4	0.66
5-Apr-16			9:15	Partial	10	0.7	13	1.0	13	1.0	14	1.0	1.3	32	2.3	NA	NA	NA
2-May-16			12:45	Partial	10	0.7	13	1.0	14	1.0	14	1.0	1.5	32	2.3	0.00	19.3	0.70
31-May-16		15:07	14:00	Partial	10	0.7	10	0.7	16	1.2	16	1.2	1.5	32	2.3	0.00	19.0	0.69
Average vacuum extraction wells:					***10.0***	***0.7***	***12.5***	***0.9***	***17.8***	***1.3***								
Average vacuum inlet:														***32.0***	***2.3***			
Percent operating time for SVE system:			**100%**															

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Flow Rate		VMW-2 Flow Rate		VMW-3C Flow Rate		INLET Flow Rate		Bleeder Valve Flow Rate		SVE Meter Flow Rate	SVE-IN Flow Rate		STACK Flow Rate	
					(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ACFM)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)
1-Apr-16	10:44		13:11	Partial	753	16.42	819	17.85	1521	33.16	1009	22.00	5950	129.71	108	5762	125.61	5760	125.57
5-Apr-16			9:15	Partial	255	5.56	653	14.24	958	20.88	724	15.78	5787	126.16	108	5753	125.42	5672	123.65
2-May-16			12:45	Partial	218	4.75	474	10.33	844	18.40	709	15.46	5875	128.08	108	5448	118.77	5682	123.87
31-May-16		15:07	14:00	Partial	340	7.41	668	14.56	917	19.99	602	13.12	5113	111.46	117	6188	134.90	5592	121.91
Average airflow rate extraction wells in ft^3/min:						***8.53***		***14.25***		***23.11***									
Total airflow rate extraction wells in ft^3/min:						***739,039***		***1,234,620***		***2,002,250***									

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Temperature		VMW-2 Temperature		VMW-3C Temperature		INLET Temperature		SVE-IN Temperature		Blower Temperature		STACK Temperature		OVA
					(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(ppm)
1-Apr-16	10:44		13:11	Partial	97.2	36.2	102.4	39.1	98.0	36.7	97.5	36.4	152.0	66.7	132.0	55.6	105.8	41.0	0.0
5-Apr-16			9:15	Partial	86.8	30.4	89.7	32.1	87.4	30.8	92.1	33.4	149.8	65.4	132.0	55.6	115.4	46.3	0.0
2-May-16			12:45	Partial	77.8	25.4	77.4	25.2	78.2	25.7	88.4	31.3	143.0	61.7	126.0	52.2	113.5	45.3	0.0
31-May-16		15:07	14:00	Partial	88.3	31.3	90.4	32.4	90.0	32.2	86.6	30.3	147.5	64.2	130.0	54.4	117.1	47.3	0.0

Notes:

in Hg	Inches of mercury.	°F	Degrees Farenheit.
in H_2O	Inches of water.	°C	Degrees Celsius.
ft/min	Feet per minute.	OVA	Organic vapor analyzer.
ft^3/min	Cubic feet per minute.	ppm	Parts per million.
ACFM	Actual cubic feet per minute.		

TABLE 4

MASS REMOVAL EXTRACTION WELLS VMW-1, VMW-2 AND VMW-3C - APRIL & MAY 2016
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

OPERATIONAL PERIOD: April 1 to May 31, 2016 (1444 hours/60 days)

VMW-1 Sample No.	DATE (day-mo-yr)	VMW-1 Flow Rate (ft^3/min)	ACETONE			METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
20	1-Apr-16	16.42	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.002088357	0.000128454	***0.003082898***	0.145406873	0.008943925	***0.214654207***
21	2-May-16	4.75	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.002690304	0.000047870	***0.001148884***	0.054241052	0.000965143	***0.023163438***
22	31-May-16	7.41	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.002121984	0.000058902	***0.001413649***	0.050234419	0.001394407	***0.033465777***
	Total removal rate per compound in lbs/day:				**0.000000000**			**0.000000000**			**0.005645431**			**0.271283422**
	Estimated removed per compound in lbs:				**0.000000**			**0.000000**			**0.339667**			**16.322219**
	Total VOCs removed (lbs) VMW-1:		**16.6619**											
	Average air flow rate:	**8.53 ft^3/min**												
	Total air flow rate:	**739,039 ft^3/min (60 days)**												

VMW-2 Sample No.	DATE (day-mo-yr)	VMW-2 Flow Rate (ft^3/min)	ACETONE			METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
20	1-Apr-16	17.85	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.001929158	0.000128996	***0.003095903***	0.082111788	0.005490524	***0.131772578***
21	2-May-16	10.33	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.002282440	0.000088322	***0.002119732***	0.047492752	0.001837798	***0.044107148***
22	31-May-16	14.56	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.001714331	0.000093503	***0.002244075***	0.039012274	0.002127809	***0.051067424***
	Total removal rate per compound in lbs/day:				**0.000000000**			**0.000000000**			**0.007459710**			**0.226947150**
	Estimated removed per compound in lbs:				**0.000000**			**0.000000**			**0.448826**			**13.654654**
	Total VOCs removed (lbs) VMW-2:		**14.1035**											
	Average air flow rate:	**14.25 ft^3/min**												
	Total air flow rate:	**1,234,620 ft^3/min (60 days)**												

VMW-3C Sample No.	DATE (day-mo-yr)	VMW-3C Flow Rate (ft^3/min)	ACETONE			METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
20	1-Apr-16	33.16	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.006902991	0.000857476	***0.020579420***	0.203240966	0.025246190	***0.605908561***
21	2-May-16	18.40	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.001665145	0.000114773	***0.002754553***	0.042897705	0.002956800	***0.070963201***
22	31-May-16	19.99	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.002172909	0.000162714	***0.003905131***	0.066290669	0.004964040	***0.119136960***
	Total removal rate per compound in lbs/day:				**0.000000000**			**0.000000000**			**0.027239104**			**0.796008722**
	Estimated removed per compound in lbs:				**0.000000**			**0.000000**			**1.638886**			**47.893191**
	Total VOCs removed (lbs):		**49.5321**											
	Average air flow rate:	**23.11 ft^3/min**												
	Total air flow rate:	**2,002,250 ft^3/min (68 days)**												

Total VOCs Removed 3 wells (lbs): **80.2974**

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TABLE 4

MASS REMOVAL EXTRACTION WELLS VMW-1, VMW-2 AND VMW-3C - APRIL & MAY 2016
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Notes:

ft^3/min	Cubic feet per minute.
mg/L	Milligrams per liter.
lbs/hr	Pounds per hour.
lbs/day	Pounds per day.

Formula Calculation:

R = Q x C/266.95 where:

R = removal rate in lbs/hr or lbs/day
Q = air flow rate at extraction well in ft^3/min
C = compound concentration in mg/L

TABLE 5

SVE STACK DISCHARGE - APRIL & MAY 2016
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

OPERATIONAL PERIOD: April 1 to May 31, 2016 (1444 hours/60 days)

STACK Sample No.	Date (day-mo-yr)	Stack Flow Rate (ft^3/min)	ACETONE			METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			TOTAL VOCs DISCHARGE	
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(lbs/hr)	(lbs/day)
														PREQB Emissions Limit Criteria:	3 lbs/hr	15 lbs/day
20	1-Apr-16	125.57	0.000091952	0.000043253	***0.001038080***	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.000006443	0.000003031	***0.000072740***	**0.000046284**	**0.001110820**
21	2-May-16	123.87	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.004934558	0.002289731	***0.054953548***	0.127124802	0.058988385	***1.415721231***	**0.061278116**	**1.470674779**
22	31-May-16	121.91	0.000000000	0.000000000	***0.000000000***	0.000000000	0.000000000	***0.000000000***	0.006265898	0.002861493	***0.068675838***	0.178968940	0.081731049	***1.961545172***	**0.084592542**	**2.030221010**
Total SVE system discharge per compound in lbs/day:					**0.001038080**			**0.000000000**			**0.123629386**			**3.377339143**		**3.502006609**
Estimated discharge per compound in lbs:					**0.062**			**0.000**			**7.438**			**203.203**		
Total VOCs discharge (lbs):				**210.704**												

Notes:

PREQB	Puerto Rico Environmental Quality Board.
ft^3/min	Cubic feet per minute.
mg/L	Milligrams per liter.
lbs/hr	Pounds per hour.
lbs/day	Pounds per day.

Formula Calculation:

R = Q x C/266.95 where: R = removal rate in lbs/hr or lbs/day
Q = air flow rate in ft^3/min
C = compound concentration in mg/L

TABLE 6

SUMMARY OF SVE NON-PULSING OPERATION - FEBRUARY 2000 TO FEBRUARY 2010
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
1	Feb-00	SVE-1	200 / 140-190	15.11	522,202	36.1	19	83	24	576	22.2	
2	Mar-00	SVE-1		23.92	930,009.60	35	18	87	27	648	3.6	
3	Apr-00	SVE-1		41.8	953,268	50.3	36	53	16	380	22.38	4/14/00
4	May-00	SVE-1		55.96	70,503.30	52	36	3.2	2	21	0.06	
5	Jul-00	SVE-1		4.20	78,372	34	6	42	13	311	19.2	
6	Aug-00	SVE-1		4.20	153,468	34	5	81	25	609	34.2	8/29/00
7	Sep-00	SVE-1		8.63	293,593	34	4	80	24	567	14.5	
8	Oct-00	SVE-1		8.19	324,324	34	4	89	27.5	660	4.29	
9	Nov-00	SVE-1		15.68	579,676	34	4	85	25.6	616	0.063	
10	Dec-00	SVE-1		5.16	166,565	34	4	80	22.4	538	0.02	
11	Jan-01	SVE-1	200 / 140-190	4.55	170,352	34	4	76	26	624	0.02	1/26/01
12	Feb-01	SVE-1		4.47	147,510	34	4	82	23	550	0.03	
13	Mar-01	SVE-1		4.83	180,545	34	4	83	26	623	0.09	
14	Apr-01	SVE-1		2.58	93,963	35	5.5	81	25	607	1.75	
15	May-01	SVE-1		2.75	109,890	38	8.2	90	28	666	3.88	
16	Jun-01	SVE-1		3.25	116,805	37.8	8	86	25	599	1.19	6/14/01
17	Jul-01	SVE-1		3.02	122,123	38	7.9	88	28	674	0.91	
18	Aug-01	SVE-1		3.00	124,020	37	7.9	94	29	689	0.77	
19	Sep-01	SVE-1		2.60	82,368	32	7.8	79	22	528	0.074	
20	Oct-01	SVE-1		3.06	112,180	26	7.7	77	25.5	611	0.11	10/11/01
21	Nov-01	SVE-1		3.14	122,083	26	7.3	90	27	648	0.59	
22	Dec-01	SVE-1		2.98	88,506	26.2	7.8	75	21	495	0.56	
23	Jan-02	SVE-1	200 / 140-190	2.57	92,520	28.2	9.6	73	25	600	0.91	
24	Feb-02	SVE-1		3.04	101,232	28	9.4	82	23	555	1.68	
25	Mar-02	SVE-1		2.41	79,385	28	9.9	85	23	549	3.84	3/25/02
26	Apr-02	SVE-1		2.32	94,934.40	32	17	82	28	682	93	
27	May-02	SVE-1		2.81	109.,421.4	29	16	87	27	649	1.01	5/9/02
28	Jun-02	SVE-1		2.41	80,976	30.7	17	82	23	560	1.24	
29	Jul-02	SVE-1		2.42	30,511	32.8	20	53	9	212	12.9	
Add.	Jul-02	VMW-3C	195 / 190-195	8.72	52,320	32.4	19.7	100	4	100	5.4	
Add.	Jul-02	VMW-2	170 / 165-170	2.03	4,019	32.8	20.7	64	1.4	33	0.78	7/24/02
Add.	Aug-02	VMW-1	150 / 145-150	3.51	21,060	30.4	18.3	100	4	100	1.92	8/14/02
Add.	Aug & Sep-02	INLET		37.24	234,612	32	19	100	4	105	0.05	

TABLE 6

SUMMARY OF SVE NON-PULSING OPERATION - FEBRUARY 2000 TO FEBRUARY 2010
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
30	Sep-02	VMW-2	170 / 165-170	3.95	36,735	32	18	50	6.5	155	0.7	9/25/02
31	Oct-02	VMW-2	170 / 165-170	3.82	62,572	31	17	73	11	273	0.9	
		VMW-1	150 / 145-150	4.36	63,046	31	19	100	10	241	0.52	
32	Nov-02	VMW-1	150 / 145-150	4.98	46,015	31	19	75	6	154	1.2	11/8/02
33	Dec-02	VMW-1		5.77	133,287	32	20	67	16	385	1.8	12/12/02
34	Jan-03	VMW-1	150 / 145-150	5.14	137,546	32	20	48	19	446	2.4	1/24/03
35	Feb-03	VMW-1		5.45	166,116	34	22	81	21	508	2.03	
36	Mar-03	VMW-1		3.5	123,270	36	24.6	77	24	587	3.25	3/3/03
37	Apr-03	VMW-3C	195 / 190-195	4.79	156,920	34	20.7	70	23	546	3.97	4/1 & 4/23/03
38	May-03	VMW-3C		3.74	104,795	32	18	67	19.5	467	2.87	5/15/03
39	Jun-03	VMW-3C		10.49	239,172	31	16	52	16	380	1.42	6/6 & 6/30/03
40	Jul-03	VMW-3C		3.6	88,776	31	17	55	17	411	0.24	7/15 & 7/28/03
41	Aug-03	VMW-3C		4.72	167,654	31	17	71	25	592	0.64	8/21/03
42	Sep-03	SVE-1	200 / 140-190	3.05	69,540	34	22	84	16	380	0.04	9/5/03
43	Oct-03	SVE-1		1.36	32,477	34	22	47	17	398	0.6	10/6 & 10/23/03
44	Nov-03	SVE-1		6.21	107,681	33	20	60	12	289	0.03	11/11/03
45	Dec-03	SVE-1		15.08	145,673	33	23	47	7	161	0.02	12/2/03
46	Jan & Feb-04	SVE-1	200 / 140-190	2.18	24,852	32	19	67	8	190	0.02	1/19/04
		VMW-1	150 / 145-150	5.04	81,648	34	22	79	11	270	19.73	
47	Mar-04	VMW-1	150 / 145-150	9.45	199,017	34	22	56	15	351	5.93	3/1 & 3/17/04
48	Apr-04	VMW-1		5.78	149,818	34	22	64	18	432	1.37	4/19/04
49	May-04	VMW-1		8.09	301,919	33	20	93	26	622	2.85	5/7 & 5/21/04
50	Jun-04	VMW-1		6.76	360,173	29	17	100	37	888	8.73	6/4 & 6/22/04
51	Jul-04	VMW-1		7.90	297,198	32	20	96	26	627	1.47	7/12 & 7/27/04
52	Aug-04	VMW-1		4.8	235,008	32	20	100	34	816	5.29	8/11 & 8/27/04
53	Sep-04	VMW-1		3.54	147,618	27	18	100	29	695	1.22	9/13 & 9/28/04
54	Oct-04	VMW-1		4.9	196,980	30	18	100	28	670	1.00	10/13 & 10/26/04
55	Nov-04	VMW-1		7.41	365,461	28	15	100	34	822	6.61	11/10 & 11/23/04
56	Dec-04	VMW-1		5.72	219,648	30	19	96	27	640	7.11	12/6 & 12/20/04

TABLE 6

SUMMARY OF SVE NON-PULSING OPERATION - FEBRUARY 2000 TO FEBRUARY 2010
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
57	Jan-05	VMW-1	150 / 145-150	7.19	342,722	30	19	94	33	794	4.40	1/4 & 1/17/05
58	Feb-05	VMW-1		6.27	203,524	30	17.5	85	23	541	2.93	2/10 & 2/24/05
59	Mar-05	VMW-1		7.08	285,667	30	19.5	100	28	672	23.80	3/10 & 3/23/05
60	Apr-05	VMW-1		8.18	364,932	30	18.5	100	31	744	1.85	4/8 & 4/21/05
61	May-05	VMW-1		11.17	465,789	30	20	100	29	695	2.09	5/4 & 5/20/05
62	Jun-05	VMW-1		6.65	296,856	31	20	100	31	744	2.85	6/3, 6/17 & 6/27/05
63	Jul-05	VMW-1		22.07	921,643	31	20	100	29	696	11.17	7/11 & 7/26/05
64	Aug-05	VMW-1		18.94	792,071	31	19	100	29	697	8.50	8/10 & 8/24/05
65	Sept & Oct 05 (Extraction Wells Shutdown)	VMW-1	150 / 145-150	4.63	833	31.5	19	100		3	0.078	
		VMW-2	170 / 165-170	4.91	589	32	15.5	100		2	0.001	
		VMW-3C	195 / 190-195	3.27	529.7	31.5	15.5	100		2.7	0.059	
		SVE-1	200 / 140-190	0.68	123.3	40	27.3	100		3	0.0004	
66	Oct-05	VMW-1	150 / 145-150	1.27	11,201	29	15.7	100	6	147	0.155	31-Oct-05
		VMW-2	170 / 165-170	9.63	84,937		11.7				0.081	
		VMW-3C	195 / 190-195	2.91	25,666		13				0.085	
67	Nov-05	VMW-1	150 / 145-150	3.82	145,084	29.6	14.6	90	26	633	1.484	11/16 & 11/29/05
		VMW-2	170 / 165-170	3.27	124,195		10.6				0.116	
		VMW-3C	195 / 190-195	2.40	91,152		11.8				0.407	
68	Dec-05	VMW-1	150 / 145-150	5.18	216,317	30	13.8	100	29	696	0.422	12/7 & 12/21/05
		VMW-2	170 / 165-170	14.17	591,739		10				0.063	
		VMW-3C	195 / 190-195	8.86	369,994		10.8				0.492	
69	Jan-06	VMW-1	150 / 145-150	8.99	406,168	30	13	91	31	753	2.332	1/11 & 1/25/06
		VMW-2	170 / 165-170	15.4	695,772		10.3				0.224	
		VMW-3C	195 / 190-195	9.81	443,216		10				1.49	
70	Feb-06	VMW-1	150 / 145-150	7.22	290,244	30	13.8	100	28	670	1.598	2/8 & 2/20/06
		VMW-2	170 / 165-170	3.27	131,454		10.3				0.076	
		VMW-3C	195 / 190-195	5.18	208,236		10				0.469	
71	Mar-06	VMW-1	150 / 145-150	1.91	54,779	30.3	15	100	20	478	0.472	3/8, 3/17 & 3/28/06
		VMW-2	170 / 165-170	4.09	117,301		13.3				0.097	
		VMW-3C	195 / 190-195	2.73	78,296		12				0.347	
72	Apr-06	VMW-1	150 / 145-150	2.59	111,733	30.3	14.5	100	30	719	0.917	4/5, 4/18 & 4/27/06
		VMW-2	170 / 165-170	3.00	129,420		13.5				0.061	
		VMW-3C	195 / 190-195	3.55	153,147		11.5				0.664	

TABLE 6

SUMMARY OF SVE NON-PULSING OPERATION - FEBRUARY 2000 TO FEBRUARY 2010
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
73	May-06	VMW-1	150 / 145-150	7.57	359,272	30	15.6	100	33	791	2.605	5/10 & 5/22/06
		VMW-2	170 / 165-170	16.95	804,447		14.0				0.219	
		VMW-3C	195 / 190-195	11.70	555,282		11.6				1.927	
74	Jun-06	VMW-1	150 / 145-150	9.20	372,600	30	15.8	100	28	675	1.95	6/5 & 6/19/06
		VMW-2	170 / 165-170	7.62	308,610		13.8				0.062	
		VMW-3C	195 / 190-195	8.96	362,880		12.0				0.858	
75	Jul-06	VMW-1	150 / 145-150	12.70	563,118	30	15.8	100	31	739	2.326	6/30, 7/11 & 7/21/06
		VMW-2	170 / 165-170	22.42	994,103		14.0				0.034	
		VMW-3C	195 / 190-195	16.39	726,733		12.5				1.000	
76	Aug-06	VMW-1	150 / 145-150	9.07	446,244	30	15.8	100	34	820	5.512	8/2, 8/15 & 8/25/06
		VMW-2	170 / 165-170	11.96	588,432		14.6				0.671	
		VMW-3C	195 / 190-195	9.91	487,572		12.6				2.741	
77	Sep-06	VMW-1	150 / 145-150	9.45	339,066	30.3	15.5	93	25	598	1.165	9/7 & 9/22/06
		VMW-2	170 / 165-170	10.09	362,029		14.0				0.058	
		VMW-3C	195 / 190-195	9.52	341,578		11.5				0.480	
78	Oct-06	VMW-1	150 / 145-150	9.87	384,338	30.8	16	100	27	649	2.018	10/3 & 10/16/06
		VMW-2	170 / 165-170	9.58	373,045		14.0				0.065	
		VMW-3C	195 / 190-195	8.96	348,902		12				0.489	
79	Nov-06	VMW-1	150 / 145-150	9.80	479,808	30.4	16	100	34	816	5.970	11/1, 11/13 & 11/27/06
		VMW-2	170 / 165-170	13.85	678,096		14.2				2.237	
		VMW-3C	195 / 190-195	10.30	504,288		11.8				7.244	
80	Dec-06	VMW-1	150 / 145-150	9.12	369,907	31.5	15	96	28	676	1.531	12/12 & 12/26/06
		VMW-2	170 / 165-170	9.20	373,152		14.0				0.815	
		VMW-3C	195 / 190-195	8.04	326,102		12				0.568	
81	Jan-07	VMW-1	150 / 145-150	8.26	404,410	31.8	15	100	34	816	3.731	1/8 & 1/22/07
		VMW-2	170 / 165-170	7.98	390,701		14.0				2.001	
		VMW-3C	195 / 190-195	8.02	392,659		12				1.272	
82	Feb-07	VMW-1	150 / 145-150	8.21	331,027	32	15	100	28	672	2.344	2/5 & 2/19/07
		VMW-2	170 / 165-170	11.15	449,568		13.5				2.645	
		VMW-3C	195 / 190-195	9.33	376,186		12				0.962	
83	Mar-07	VMW-1	150 / 145-150	11.13	431,399	34	18.4	96	27	646	1.856	3/5 & 3/19/07
		VMW-2	170 / 165-170	10.97	425,197		16.8				0.725	
		VMW-3C	195 / 190-195	12.08	468,221		15.4				1.014	

TABLE 6

SUMMARY OF SVE NON-PULSING OPERATION - FEBRUARY 2000 TO FEBRUARY 2010
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
84	Apr-07	VMW-1	150 / 145-150	12.22	493,444	34	18.5	100	28	673	0.003	4/2 & 4/16/07
		VMW-2	170 / 165-170	9.19	371,092		17.0				0.001	
		VMW-3C	195 / 190-195	10.25	413,895		16				0.005	
85	May-07	VMW-1	150 / 145-150	13.45	522,129	34	19.5	93	27	647	0.360	4/30 & 5/14/07
		VMW-2	170 / 165-170	9.22	357,920		17.5				0.103	
		VMW-3C	195 / 190-195	10.95	425,079		16.3				0.379	
86	Jun-07	VMW-1	150 / 145-150	10.32	505,267	34	20	100	34	816	1.065	6/1, 6/11 & 6/25/07
		VMW-2	170 / 165-170	10.17	497,923		18.4				0.331	
		VMW-3C	195 / 190-195	11.83	579,197		17.2				0.413	
87	Jul-07	VMW-1	150 / 145-150	8.28	405,886	34	20	97	34	817	1.959	7/13 & 7/24/07
		VMW-2	170 / 165-170	7.48	366,670		18.8				1.050	
		VMW-3C	195 / 190-195	7.56	370,591		17.8				1.030	
88	Aug-07	VMW-1	150 / 145-150	8.68	375,497	35.3	20	100	30	721	0.5904	8/7 & 8/20/07
		VMW-2	170 / 165-170	10.09	436,493		19.5				0.0003	
		VMW-3C	195 / 190-195	9.95	430,437		17.5				0.2948	
89	Sep-07	VMW-1	150 / 145-150	10.34	385,889	32.8	19	100	26	622	0.3133	9/5 & 9/17/07
		VMW-2	170 / 165-170	10.40	388,128		18.0				0.0704	
		VMW-3C	195 / 190-195	12.39	462,395		17				0.2904	
90	Oct-07	VMW-1	150 / 145-150	8.82	444,528	26.4	17	100	35	840	0.9898	10/1, 10/16 & 10/29/07
		VMW-2	170 / 165-170	9.73	490,392		15.8				0.6067	
		VMW-3C	195 / 190-195	10.22	515,088		14				0.4012	
91	Nov-07	VMW-1	150 / 145-150	7.15	71,643	24	10	100	7	167	1/	2/
		VMW-2	170 / 165-170	6.74	67,535		10.0				0.0600	
		VMW-3C	195 / 190-195	7.19	72,044		8				0.0400	
92	Dec-07	VMW-1	150 / 145-150	7.77	67,133	34	18.5	100	6	144	3.6246	27-Dec-07
		VMW-2	170 / 165-170	8.35	72,144		16.0				1.3622	
		VMW-3C	195 / 190-195	7.87	67,997		14				0.8652	
93	Jan-08	VMW-1	150 / 145-150	9.61	443,405	35.4	18.2	100	32	769	1.5562	1/3, 1/14 & 1/28/08
		VMW-2	170 / 165-170	12.37	570,752		17.6				1.5251	
		VMW-3C	195 / 190-195	12.38	571,213		15.4				0.9589	
94	Feb-08	VMW-1	150 / 145-150	8.56	356,952	35.5	17	100	29	695	0.0006	2/11 & 2/26/08
		VMW-2	170 / 165-170	12.34	514,578		17.8				0.0010	
		VMW-3C	195 / 190-195	8.63	359,871		16				0.0006	

TABLE 6

SUMMARY OF SVE NON-PULSING OPERATION - FEBRUARY 2000 TO FEBRUARY 2010
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
95	Mar-08	VMW-1	150 / 145-150	11.03	428,185	35.8	14	99.8	27	647	0.0005	3/10 & 3/24/08
		VMW-2	170 / 165-170	10.53	408,774		16.8				0.0005	
		VMW-3C	195 / 190-195	10.02	388,976		16				0.0004	
96	Apr-08	VMW-1	150 / 145-150	9.57	466,825	35.6	15.4	97	34	813	1.0248	4/7 & 4/22/08
		VMW-2	170 / 165-170	8.60	419,508		18.0				0.1213	
		VMW-3C	195 / 190-195	8.53	416,093		16.2				0.5483	
97	May-08	VMW-1	150 / 145-150	11.20	516,768	34.3	15.5	100	32	769	0.8620	5/5 & 5/19/08
		VMW-2	170 / 165-170	10.52	485,393		18.8				0.2067	
		VMW-3C	195 / 190-195	9.93	458,170		17.5				0.3581	
98	Jun-08	VMW-1	150 / 145-150	13.19	421,025	34	16	85	22	532	0.2231	6/6 & 6/19/08
		VMW-2	170 / 165-170	15.76	503,059		19				0.0779	
		VMW-3C	195 / 190-195	14.14	451,349		17				0.2923	
99	Jul-08	VMW-1	150 / 145-150	9.41	460,149	34	16	100	34	815	0.5544	7/1, 7/15 & 7/29/08
		VMW-2	170 / 165-170	8.90	435,210		19				0.1523	
		VMW-3C	195 / 190-195	9.01	440,589		17.3				0.6563	
100	Aug-08	VMW-1	150 / 145-150	12.71	441,545	34	16	89	24	579	0.000131	8/11 & 8/25/08
		VMW-2	170 / 165-170	12.38	430,081		19				0.000131	
		VMW-3C	195 / 190-195	15.76	547,502		17				0.000250	
101	Sep-08	VMW-1	150 / 145-150	9.08	363,382	34	16	100	28	667	0.000144	9/9 & 9/22/08
		VMW-2	170 / 165-170	9.99	399,800		19.5				0.000156	
		VMW-3C	195 / 190-195	9.14	365,783		16.8				0.000066	
102	Oct-08	VMW-1	150 / 145-150	9.69	500,585	34.4	16	100	36	861	2.365452	10/7 & 10/23/08
		VMW-2	170 / 165-170	14.44	745,970		19.4				0.605816	
		VMW-3C	195 / 190-195	11.59	598,739		17.2				1.549567	
103	Nov-08	VMW-1	150 / 145-150	8.95	318,441	34.3	15	89	25	593	2.454853	11/3 & 11/19/08
		VMW-2	170 / 165-170	11.79	419,488		18.5				0.932874	
		VMW-3C	195 / 190-195	11.30	402,054		16.5				1.899250	3/
104	Mar-09	VMW-1	150 / 145-150	13.47	253,775	34.7	12.7	100	13	314	5.393837	10-Mar-09
		VMW-2	170 / 165-170	13.33	251,137		18.0				3.024644	
		VMW-3C	195 / 190-195	13.63	256,789		14.7				7.767911	
105	Apr-09	VMW-1	150 / 145-150	10.64	395,170	35.5	15.5	89.6	26	619	1.854802	4/7 & 4/20/09
		VMW-2	170 / 165-170	10.86	403,340		18.8				0.244926	
		VMW-3C	195 / 190-195	13.33	495,076		17				0.858882	

TABLE 6

SUMMARY OF SVE NON-PULSING OPERATION - FEBRUARY 2000 TO FEBRUARY 2010
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
106	May-09	VMW-1	150 / 145-150	16.18	908,669	34.8	15.8	100	39	936	7.571623	5/8 & 5/21/09
		VMW-2	170 / 165-170	15.39	864,302		18.2				0.561549	
		VMW-3C	195 / 190-195	18.88	1,060,301		16.4				3.726816	
107	Jun-09	VMW-1	150 / 145-150	14.55	669,591	34.4	16.8	100	32	767	5.980598	6/8 & 6/22/09
		VMW-2	170 / 165-170	12.57	578,471		19.6				1.009781	
		VMW-3C	195 / 190-195	13.96	642,439		18				2.875422	
108	Jul-09	VMW-1	150 / 145-150	15.71	608,920	35.3	16.5	100	27	646	4.276	7/7 & 7/20/09
		VMW-2	170 / 165-170	14.37	556,981		19.5				0.762	
		VMW-3C	195 / 190-195	14.62	566,671		18.3				2.344	
109	Aug-09	VMW-1	150 / 145-150	10.63	424,137	36	16	99	28	665	2.290572	8/3 & 8/18/09
		VMW-2	170 / 165-170	12.18	485,982		20.0				0.707209	
		VMW-3C	195 / 190-195	13.85	552,615		17.8				1.466105	
110	Sep-09	VMW-1	150 / 145-150	7.62	280,264	35.5	16.0	91	25.5	613	5.478173	9/1 & 9/17/09
		VMW-2	170 / 165-170	9.28	341,318		19.0				0.411593	
		VMW-3C	195 / 190-195	9.69	356,398		17.8				1.007658	
111	Oct-09	VMW-1	150 / 145-150	10.00	503,400	36	16.0	100	35	839	3.261948	10/1 & 10/13/09
		VMW-2	170 / 165-170	12.43	625,726		19.0				1.242479	
		VMW-3C	195 / 190-195	11.47	577,400		17.6				2.198758	
112	Nov-09	VMW-1	150 / 145-150	8.97	452,088	36	14.3	100	35	840	2.853304	11/2, 11/16 & 11/30/09
		VMW-2	170 / 165-170	11.96	602,784		18.3				0.802025	
		VMW-3C	195 / 190-195	13.52	681,408		16.5				2.260381	
113	Dec-09	VMW-1	150 / 145-150	9.97	400,794	36.3	14.0	100	28	670	6.407085	12/14 & 12/28/09
		VMW-2	170 / 165-170	10.86	436,572		18.0				6.689507	
		VMW-3C	195 / 190-195	11.50	462,300		15.8				5.435659	
114	Jan-10	VMW-1	150 / 145-150	9.46	380,860	36.3	14.0	100	28	671	2.065491	1/11/10
		VMW-2	170 / 165-170	9.44	380,054		17.3				0.923901	
		VMW-3C	195 / 190-195	11.53	464,198		14.5				1.111874	
115	Feb-10	VMW-1	150 / 145-150	9.73	392,314	36.3	15.0	100	28	672	1.886799	2/8/10
		VMW-2	170 / 165-170	15.00	604,800		14.0				1.871269	
		VMW-3C	195 / 190-195	11.65	469,728		14.8				0.987515	

TABLE 6

SUMMARY OF SVE NON-PULSING OPERATION - FEBRUARY 2000 TO FEBRUARY 2010
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Notes:

1/ The laboratory reported that sample VMW-1-108 collected from extraction well VMW-1 was received broken and no analysis was performed.

2/ Moisture separator found broken during November 5, 2007 sampling activities. SVE system turn off until moisture separator replacement on December 21, 2007.

3/ On December 1, 2008 the SVE vacuum blower was reported by Pfizer personnel to be out of operation. A new blower unit was installed on February 28, 2009. The SVE system operation was resumed on March 10, 2009 after SVE systems check (blower motor rotation, electrical, pipelines, joints, vacuum gauges, flow meter, moisture separator and stack), and stabilization parameters and vapor samples from extraction wells and stack.

TABLE 7

SUMMARY OF SVE PULSING/CYCLING OPERATION - MARCH 2010 TO MAY 2016
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
PULSING/CYCLING PROCEDURES												
1	Apr-10	VMW-1	150 / 145-150	16.33	752,486	36	17.0	100	32	768	2.6477	1/
		VMW-2	170 / 165-170	15.01	691,661		13.0				0.5367	
		VMW-3C	195 / 190-195	13.01	599,501		17.0				2.8294	
	Jun-10	VMW-1	150 / 145-150	9.32	387,526	36.5	17.0	100	29	693	15.3813	
		VMW-2	170 / 165-170	10.44	434,095		13.5				11.0887	
		VMW-3C	195 / 190-195	9.29	386,278		17.0				9.1009	
	Aug-10	VMW-1	150 / 145-150	15.00	583,200	37.5	18.5	100	27	648	36.4456	
		VMW-2	170 / 165-170	15.54	604,195		15.0				23.1364	
		VMW-3C	195 / 190-195	16.30	633,744		19.0				14.9451	
2	Oct-10	VMW-1	150 / 145-150	12.20	458,232	37.5	18.0	100	26	626	27.9329	10/6/10
		VMW-2	170 / 165-170	14.12	530,347		14.0				18.4070	
		VMW-3C	195 / 190-195	20.10	754,956		18.0				13.5022	
	Dec-10	VMW-1	150 / 145-150	6.41	248,836	38	18.5	100	27	647	15.7973	
		VMW-2	170 / 165-170	7.98	309,784		14.0				5.5114	
		VMW-3C	195 / 190-195	7.14	277,175		17.5				3.0974	
	Feb-11	VMW-1	150 / 145-150	5.96	233,155	38	16.0	100	27	652	19.9244	
		VMW-2	170 / 165-170	5.76	225,331		14.0				12.5025	
		VMW-3C	195 / 190-195	6.19	242,153		18.0				7.4042	
3	Apr-11	VMW-1	150 / 145-150	18.39	610,180	37	16.0	100	23	553	33.0169	2/
		VMW-2	170 / 165-170	14.50	481,110		14.0				9.8245	
		VMW-3C	195 / 190-195	17.94	595,249		16.0				8.0317	
	Jun-11	VMW-1	150 / 145-150	15.39	578,048	37	18.0	100	26	626	30.2072	
		VMW-2	170 / 165-170	12.88	483,773		13.0				7.2812	
		VMW-3C	195 / 190-195	12.09	454,100		17.5				9.8346	
	Aug-11	VMW-1	150 / 145-150	16.96	724,531	39	19.0	100	29	712	27.3855	
		VMW-2	170 / 165-170	17.40	743,328		16.0				16.4732	
		VMW-3C	195 / 190-195	19.01	812,107		20.0				7.2905	
	Nov-11	VMW-1	150 / 145-150	8.06	383,978	37	19.0	100	33	794	15.1555	
		VMW-2	170 / 165-170	7.94	378,262		16.0				7.8081	
		VMW-3C	195 / 190-195	6.19	294,892		19.0				4.8375	

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TABLE 7

SUMMARY OF SVE PULSING/CYCLING OPERATION - MARCH 2010 TO MAY 2016
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
4	Jan-Feb 2012	VMW-1	150 / 145-150	7.78	414,985	31.5	14.0	100	37	889	22.8349	1/23/12[3/]
		VMW-2	170 / 165-170	7.51	400,583		10.0				4.7724	
		VMW-3C	195 / 190-195	7.06	376,580		14.0				6.6713	
	Apr-12	VMW-1	150 / 145-150	9.60	374,400	33.5	16.0	100	27	650	11.3448	
		VMW-2	170 / 165-170	9.32	363,480		10.0				2.4469	
		VMW-3C	195 / 190-195	9.54	372,060		16.0				5.0372	[4/]
	Jun-12	VMW-1	150 / 145-150	8.46	306,590	34.5	18.0	100	25	604	10.0404	
		VMW-2	170 / 165-170	6.60	239,184		13.5				3.2279	
		VMW-3C	195 / 190-195	9.46	342,830		19.0				4.1748	
5	Aug-12	VMW-1	150 / 145-150	7.78	414,985	36	16.0	100	30	721	22.8349	10/2/12
		VMW-2	170 / 165-170	7.51	400,583		13.5				4.7724	
		VMW-3C	195 / 190-195	7.06	376,580		19.0				6.6713	
	Oct-12	VMW-1	150 / 145-150	9.60	374,400	33.5	16.0	100	27	650	11.3448	
		VMW-2	170 / 165-170	9.32	363,480		10.0				2.4469	
		VMW-3C	195 / 190-195	9.54	372,060		16.0				5.0372	
	Dec-12	VMW-1	150 / 145-150	8.46	306,590	34.5	18.0	100	25	604	10.0404	
		VMW-2	170 / 165-170	6.60	239,184		13.5				3.2279	
		VMW-3C	195 / 190-195	9.46	342,830		19.0				4.1748	
6	Feb-13	VMW-1	150 / 145-150	9.37	323,827	38	14.0	100	24	576	8.0138	4/3/13
		VMW-2	170 / 165-170	9.28	320,717		10.0				4.9841	
		VMW-3C	195 / 190-195	8.18	282,701		16.0				6.9808	
	Apr-13	VMW-1	150 / 145-150	10.48	409,349	36	14.0	100	27	651	10.4615	
		VMW-2	170 / 165-170	21.04	821,822		10.0				8.9647	
		VMW-3C	195 / 190-195	15.72	614,023		16.0				10.3771	
	Jun-13	VMW-1	150 / 145-150	23.33	834,281	35	15.5	100	25	596	22.7551	
		VMW-2	170 / 165-170	14.13	505,289		13.5				10.1854	
		VMW-3C	195 / 190-195	17.91	640,462		16.5				12.8600	

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TABLE 7

SUMMARY OF SVE PULSING/CYCLING OPERATION - MARCH 2010 TO MAY 2016
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
7	Aug-13	VMW-1	150 / 145-150	16.80	750,960	35	15.0	100	31	745	18.6665	8/6/13
		VMW-2	170 / 165-170	23.05	1,030,335		14.0				18.0805	
		VMW-3C	195 / 190-195	23.20	1,037,040		18.0				17.8033	
	Oct-13	SVE-1	200 / 140-190	22.28	896,993	31	22.0	100	28	671	2.6588	5/
	Dec-13/Jan-14	SVE-1	200 / 140-190	13.11	604,895	30	15.0	100	32	769	1.0149	
8	Feb-14/Mar-14	VMW-1	150 / 145-150	5.04	326,894	33	13.5	100	45	1081	7.7315	6/
		VMW-2	170 / 165-170	6.98	452,723		11.5				9.5835	
		VMW-3C	195 / 190-195	7.87	510,448		17.5				11.0107	
	May-14	VMW-1	150 / 145-150	24.43	1,018,731	37	19.5	100	29	695	10.4615	
		VMW-2	170 / 165-170	23.20	967,440		19.5				8.9647	
		VMW-3C	195 / 190-195	27.52	1,147,584		19.5				10.3771	
	Aug-14	VMW-1	150 / 145-150	13.40	580,488	38	5.0	100	30	722	22.7551	8/5/14
		VMW-2	170 / 165-170	16.18	700,918		12.0				10.1854	
		VMW-3C	195 / 190-195	18.79	813,983		21.0				12.8600	
9	Oct-14/Nov-14	VMW-1	150 / 145-150	16.37	757,276	36.7	5.0	100	32	771	4.7333	3/12/15
		VMW-2	170 / 165-170	21.29	984,875		12.0				12.0564	
		VMW-3C	195 / 190-195	25.35	1,172,691		20.7				18.0136	
	Jan-15/Feb-15	VMW-1	150 / 145-150	13.07	847,720	38	9.0	100	45	1081	20.6504	
		VMW-2	170 / 165-170	17.04	1,105,214		11.5				22.2599	
		VMW-3C	195 / 190-195	33.83	2,194,214		22.0				42.6228	
	Apr-15	VMW-1	150 / 145-150	10.50	440,370	31	12.5	100	29	699	7.9631	
		VMW-2	170 / 165-170	10.82	453,791		17.5				5.7752	
		VMW-3C	195 / 190-195	17.07	715,916		22.0				15.2702	
10	Jun-15	VMW-1	150 / 145-150	11.34	458,590	30	7	100	28	674	1.8772	7/
		VMW-2	170 / 165-170	13.81	558,476		12				2.6990	
		VMW-3C	195 / 190-195	21.46	867,842		13				6.3806	
	Aug-15/Sep-15	VMW-1	150 / 145-150	5.70	304,078	30	12	100	37	889	4.3689	8/
		VMW-2	170 / 165-170	8.14	434,188		12				3.2223	
		VMW-3C	195 / 190-195	10.75	573,405		18				7.0158	
	Nov-15/Jan-16	VMW-1	150 / 145-150	9.83	559,170	30	8.0	100	68	1635	15.7096	11/10/15
		VMW-2	170 / 165-170	14.62	798,534		12.7				21.4435	
		VMW-3C	195 / 190-195	21.89	1,054,575		16.0				27.6350	

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TABLE 7

SUMMARY OF SVE PULSING/CYCLING OPERATION - MARCH 2010 TO MAY 2016
SVE PULSING OPERATIONS PERIOD - FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Well Depth/ Screen Interval (feet)	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
11	Apr-May 2016	VMW-1	150 / 145-150	8.53	739,039	32	10.0	100	60	1444	16.6619	9/ 4/1/16
		VMW-2	170 / 165-170	14.25	1,234,620		12.5				14.1035	
		VMW-3C	195 / 190-195	23.11	2,002,250		17.8				49.5321	

Notes:

1/ SVE pulsing/cycling program began on February 22, 2010 after EPA approval.

2/ Clean up of vacuum extraction wells VMW-2 and VMW-3C performed on August 1, 2 and 9, 2011. Air filter unit and nipple replaced on August 12, 2011.
Activated carbon unit removed from SVE system on August 10, 2011 based on historical data below 3 lbs/hr or 15 lbs/day.
SVE found off during September 9, 2011 site visit for monitoring and sampling activities due to electrical power failure on September 8, 2011.
SVE system did not start on this date. After system verification during September 2011, it was determined that electrical system and blower motor unit was damaged. Resume SVE operation on October 27, 2011 after repairs of SVE electrical system and re-installation of repaired blower unit.

3/ Start up SVE operation on January 23, 2012 after carbon unit installation.

4/ SVE system check on May 23, 2012 after electrical utilities relocation.

5/ Extraction procedures from well SVE-1 starting on October 7, 2013 until January 2014.

6/ Pulsing procedures on 2-months off basis between May and August 2014.

7/ Verification of system components on July 29, 2015: bleeder, moisture separator, pipelines.

8/ Pulsing procedures on 2-months off basis after September 2015.

9/ Verification of system components (blower, particulate filter, moisture separator, vacuum/pressure gauges, and clean up of vacuum extraction wells SVE-1, VMW-1, VMW-2 and VMW-3C performed on February 11 and 12, 2016. A second carbon unit installed at SVE system on April 1, 2016.

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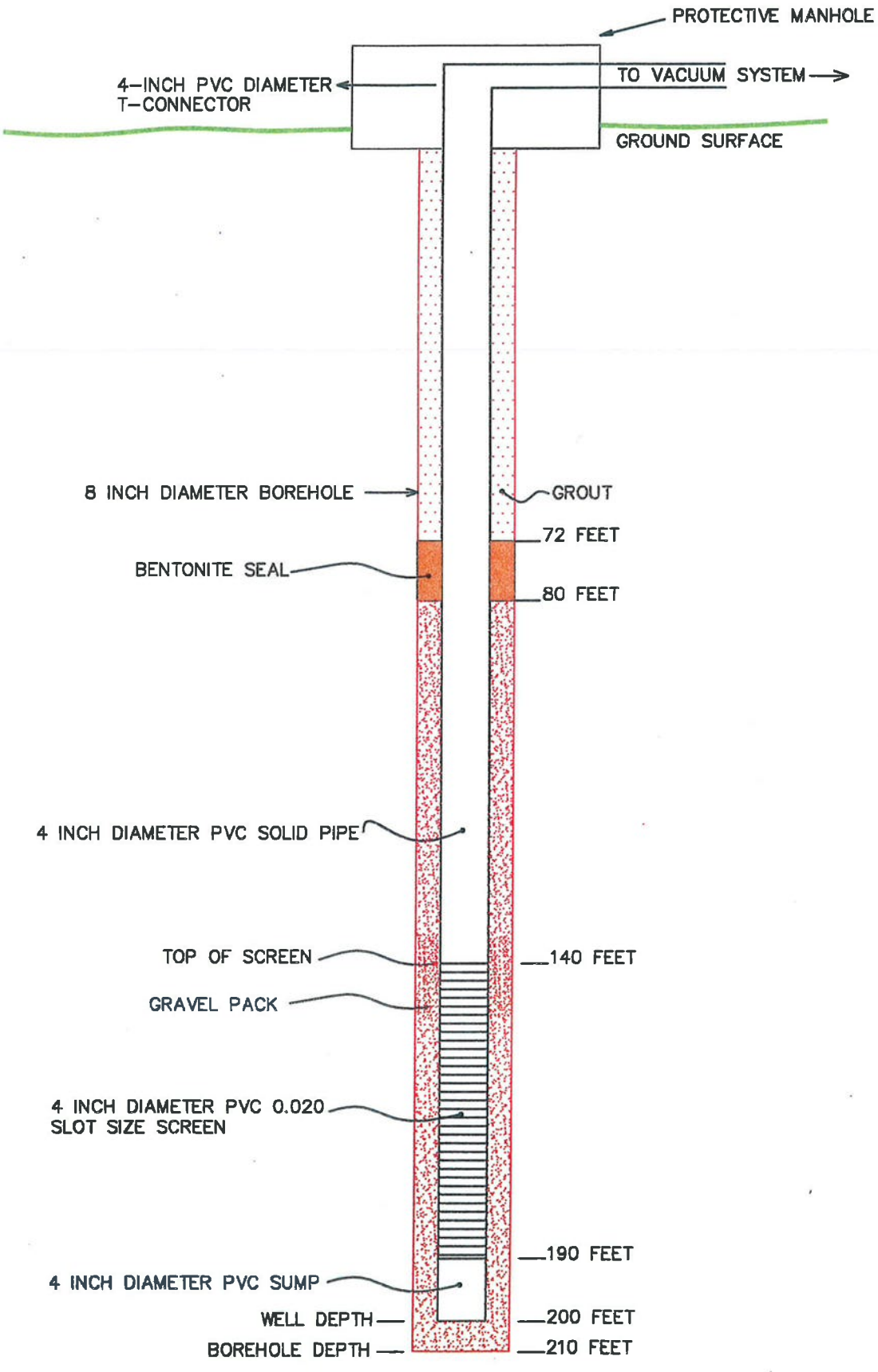
APPENDIX 1

EXTRACTION AND VACUUM MONITORING WELLS CONSTRUCTION DETAIL

SVE PULSING OPERATIONS PROGRESS REPORT NO. 11
FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E155384

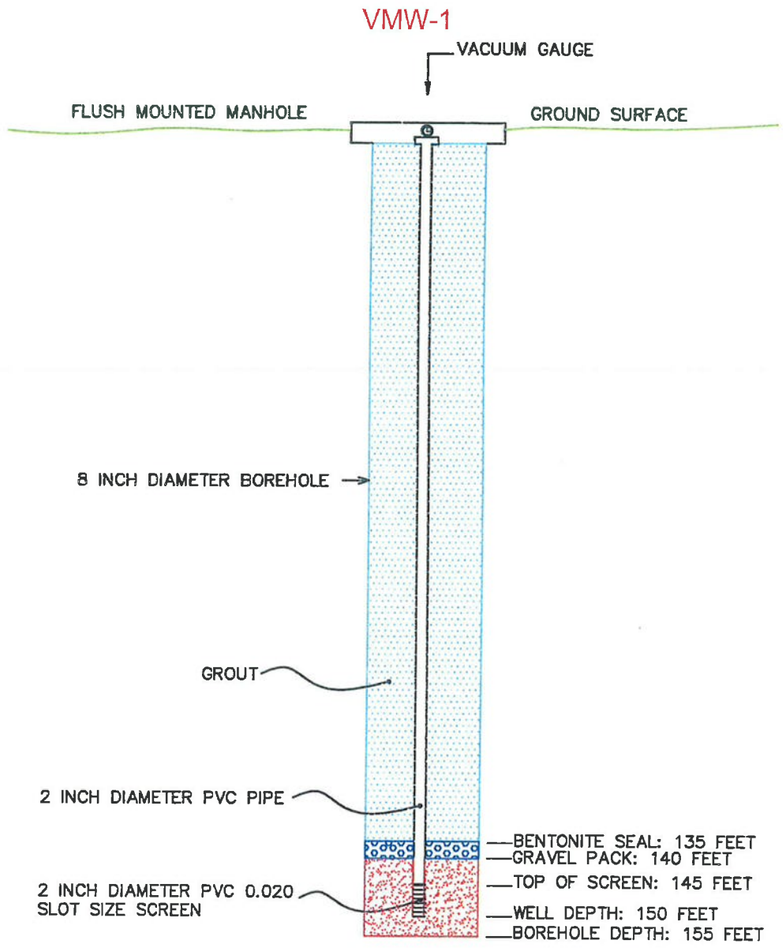
ERTEC

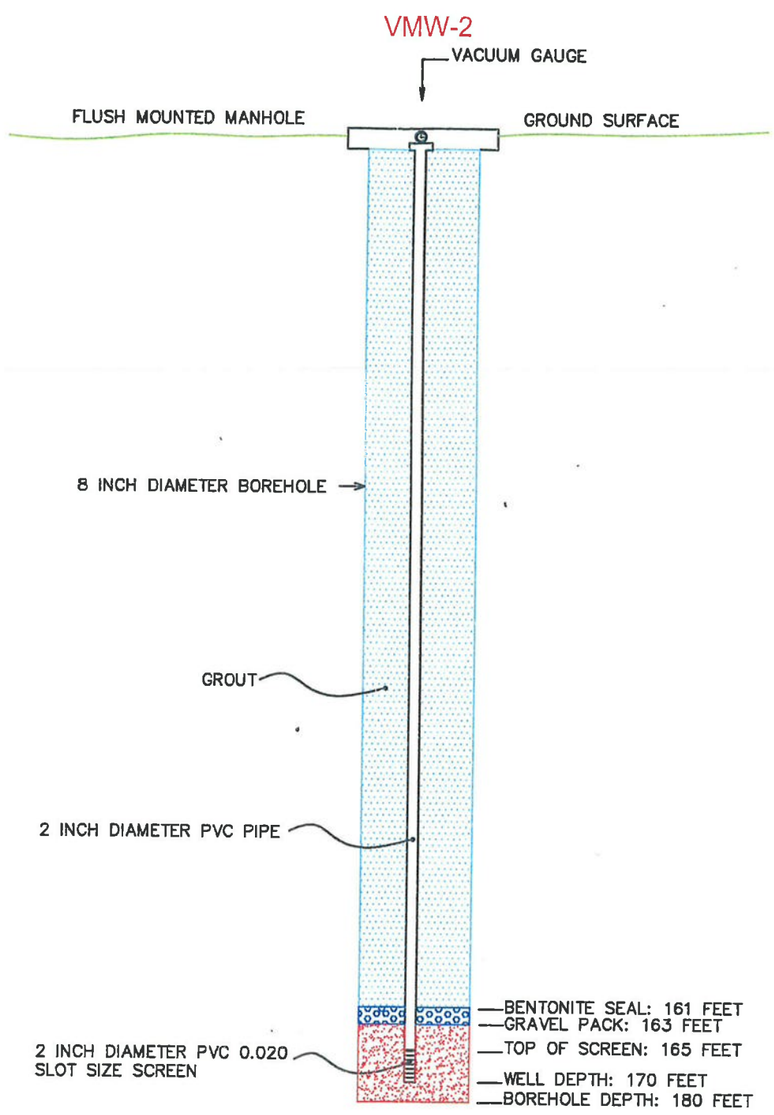


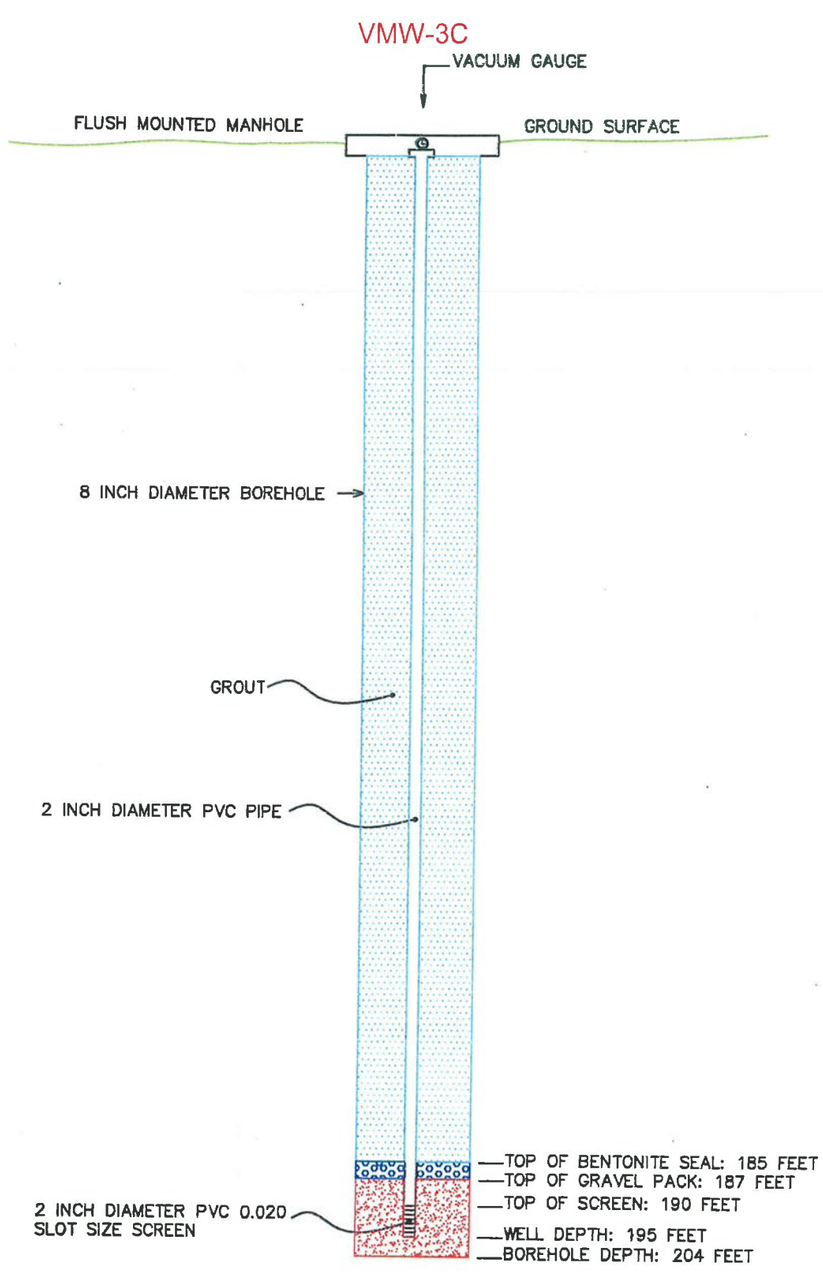
SCALE: NTS	
REV.: WM	
FILE: FIG	
DWG. BY: EGN	
JOB: E145288	

WELL CONSTRUCTION DETAIL
CORRECTIVE MEASURE STUDY
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

ERTEC
ENVIRONMENTAL RESOURCE TECHNOLOGIES







VMW-1, VMW-2 AND VMW-3C WELLS CONSTRUCTION DETAILS
CORRECTIVE MEASURE STUDY
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

DATE: 07/24/2013	SCALE: NTS	DRAWN BY: EGN	REV.: WIM	FILE: FIGURE	JOB: E145288

ERTEC
ENVIRONMENTAL RESOURCE TECHNOLOGIES

APPENDIX 2

CHAIN OF CUSTODY DOCUMENTATION

SVE PULSING OPERATIONS PROGRESS REPORT NO. 11
FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E155384

ERTEC

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	Samples Collected By: Roberto de Jesús and Josué Negrón	1 of 2 COCs
Company: ERTEC, PSC	Phone: 792-8902		
Address: Amur St A-5 Rpto. Landrau	Email: wmorales@ertecpr.com		
City/State/Zip: Rpto Pedras, PR 00928			
Phone: 792-8902	Site Contact: Wanda Morales		
FAX: 783-5555	TA Contact: Don Pazicki		
Project Name: Pfizer Arecibo (SVE)	Analysis Turnaround Time		
Site: Arecibo, PR	Standard (Specify) ✓		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type:	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VMW-1-20	040116	1337	/	/	/	/	3757	X									X		
VMW-2-20	040116	1345	/	/	/	/	3692	X									X		
VMW-3C-20	040116	1354	/	/	/	/	3866	X									X		
SVE-A	040116	1359	/	/	/	/	4459	X									X		
INLET-20	040116	1409	/	/	/	/	4803	X									X		
STACK-20	040116	1418	/	/	/	/	2585	X									X		

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

200-32818 Chain of Custody

Special Instructions/QC Requirements & Comments:
Other: Trip Blank 040116.

Samples Shipped by:	Date/Time:	Samples Received by:
Roberto de Jesús/~~Roberto de Jesús~~	04/01/16 @ 1600	FedEx - 04/01/16 @ 1600
Samples Relinquished by:	Date/Time:	Received by: 04/02/16 10:10
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: SEA Condition: INTACT

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	Samples Collected By: Roberto DeJesús and Josue Negron	2 of 2 COCs
Company: ERTEC PSC	Phone: 792-8902		
Address: Amur St. #3 Rpto. Landrau	Email: wmorales@ertecpr.com		
City/State/Zip: PO Piedras, PR 00928			
Phone: 792-8902	Site Contact: Wanda Morales		
FAX: 783-5555	TA Contact: Don Davis		
Project Name: Pfizer AOC860 (SVE)	**Analysis Turnaround Time**		
Site: Arecibo, PR	Standard (Specify) ✓		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum In Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
TB040116	040116	✓	✓	✓	✓	✓	4778	X											X
					RCB 04/01/16														

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
other: Trip Blank 040116.

Samples Shipped by: Roberto DeJesús / ~~Roberto Cruz~~	Date/Time: 04/01/16 @ 1600	Samples Received by: FedEx 04/01/16 @ 1600
Samples Relinquished by:	Date/Time:	Received by: 04/02/16 10:10
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: SEA Condition: INTACT

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	Samples Collected By: Roberto De Jesús y Josue Negron	1 of 1 COCs
Company: ERTEC, PSC	Phone: (787) - 792 - 8902		
Address: Amur ST. AS Roto Landrau	Email: wmorales@ertecpr.com		
City/State/Zip Rio Piedras, PR 00921			
Phone: (787) - 792 - 8902	Site Contact: Wanda Morales		
FAX: (787) - 783 - 5555	TA Contact: Dok Dawicki		
Project Name: Pfizer Arecibo (SVE)	**Analysis Turnaround Time**		
Site: Arecibo, PR	Standard (Specify) ✓		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VMW-1-21	050216	1309	/	/	/	/	4011	X									X		
VMW-2-21	050216	1319	/	/	/	/	3660	X									X		
VMW-3C-21	050216	1326	/	/	/	/	4261	X									X		
Inlet-21	050216	1334	/	/	/	/	3569	X									X		
Stack-21	050216	1344	/	/	/	/	5894	X									X		

Temperature (Fahrenheit)			
	Interior	Ambient	
Start		N	
Stop		A	

Pressure (Inches of Hg)			
	Interior	Ambient	
Start			
Stop			

200-33397 Chain of Custody

Special Instructions/QC Requirements & Comments: samples were collected on 05/02/16, secure until shipment @ FedEx on 05/03/16.

Samples Shipped by: Roberto De Jesus/~~Roberto~~	Date/Time: 05/03/16 @ 1000	Samples Received by: FedEx	05-03-16 @ 1000
Samples Relinquished by:	Date/Time:	Received by:	5/4/16 (03
Relinquished by:	Date/Time:	Received by:	

Lab Use Only | Shipper Name: | Opened by: | Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	Samples Collected By: Roberto DeJesús and Josué Negrón	1 of 2 COCs
Company: ERTEC, PSC	Phone: (787) - 792-8902		
Address: Amur St. AS Roto Landrau	Email: wmorales@ertecpr.com		
City/State/Zip Río Piedras PR 00921			
Phone: (787) - 792-8902	Site Contact: Wanda Morales		
FAX: (787) - 783-5555	TA Contact: DON Dawicki		
Project Name: Pfizer Arecibo (SUE)	Analysis Turnaround Time		
Site: Arecibo, PR	Standard (Specify) ✓		
PO# 15.538U	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum In Field, "Hg (Start)	Canister Vacuum In Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type:	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VMW-1-22	053116	1427					4163	X									X		
VMW-2-22	053116	1435					5027	X									X		
VMW-3C-22	053116	1444					4907	X									X		
Inlet-22	053116	1453					5112	X									X		
SUE-A	053116	1456					3627	X									X		
Stack-22	053116	1505					4439	X									X		

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop		N/A	

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

200-33799 Chain of Custody

Special Instructions/QC Requirements & Comments:
Samples were collected on 05/31/16, secure until shipment @ FedEx on 06/01/16.

Samples Shipped by: Roberto De Jesús / Roberto Jesús	Date/Time: 06/01/16 @ 1000	Samples Received by: FedEx 06/01/16 @ 1000	
Samples Relinquished by:	Date/Time:	Received by: 6/2/16	1030
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	Samples Collected By: Roberto de Jesús and Jose Negron
Company: ERTEC, PSC	Phone: (787) - 792-8902	2 of 2 COCs
Address: Amer St. A5 Rpto Landrau	Email: wmorales@ertecpr.com	
City/State/Zip Rio Piedras PR 00921		
Phone: (787) - 792-8902	Site Contact: Wanda Morales	
FAX: (787) - 783-5555	TA Contact: Don Dawicki	
Project Name: Pfizer Arecibo SVE	**Analysis Turnaround Time**	
Site: Arecibo, PR	Standard (Specify) ✓	
PO# 15-5384	Rush (Specify)	

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum In Field, "Hg (Start)	Canister Vacuum In Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
TB 053116	053116						3353	X											X

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		N/A

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments: other: Trip Blank. samples were collected on 05/31/16, secure until shipment @ FedEx on 06/01/16.

Samples Shipped by: Roberto De Jesús / ~~Roberto Negron~~	Date/Time: 06/01/16 @ 1000	Samples Received by: FedEx 06/01/16 @ 1000
Samples Relinquished by:	Date/Time:	Received by: 6/2/16 1030
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name

APPENDIX 3

DATA VALIDATION REPORTS

SVE PULSING OPERATIONS PROGRESS REPORT NO. 11
FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E155384

ERTEC

Eden Environmental, LLC

April 28, 2016

Ms. Wanda Morales
ERTEC
Amur St. A - #5
Reparto Landrau
Rio Piedras, PR 00921

RE: Data Validation Report for the SVE TO-15 Air Monitoring of the Pfizer Arecibo Site

Dear Wanda,

Enclosed is the validation report for the air samples collected on April 1, 2016, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-32818:

STACK-20	INLET-20	VMW-1-20
VMW-2-20	VMW-3C-20	SVE-A
TB040116		

The data package was received for validation on April 20, 2016. The laboratory performed well, but some qualifications of sample results was necessary. The laboratory-applied "J" qualifier applied to the result for carbon tetrachloride in STACK-20 to indicate a concentration between the method detection limit (MDL) and the reporting limit (RL) was not removed by the validator.

All samples were analyzed for acetone, methylene chloride, chloroform, and carbon tetrachloride in conformance with the specifications of USEPA Compendium Method TO-15. The validation effort was restricted to the reported results and supporting data for these compounds.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

If you have any questions regarding this report, please give me a call at 225-355-0163 or contact me by e-mail at engrid@eden-env.com

Kindest regards,

Engrid Carpenter

Engrid S. Carpenter
President

Eden Environmental, LLC

ANALYTICAL DATA VALIDATION

ERTEC JOB DESCRIPTION – PFIZER ARECIBO – SVE

ERTEC JOB NUMBER –15-5384

ORGANIC ANALYSIS DATA

Prepared by: TestAmerica Laboratory, Burlington Vermont
Sample Delivery Group: 200-32818
Selected Volatile Organic Compounds in Air Samples

VALIDATION REPORT

Prepared by: Eden Environmental, LLC
Eden Project Number 13103

Date: April 28, 2016

13103/ESC/CEW
200-32818-TO-15

Eden Environmental, LLC

INTRODUCTION

Enclosed is the validation report for the air samples collected on April 1, 2016, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-32818:

STACK-20	INLET-20	VMW-1-20
VMW-2-20	VMW-3C-20	SVE-A
TB040116		

The data package was received for validation on April 20, 2016. The laboratory performed well, but some qualifications of sample results was necessary. The laboratory-applied "J" qualifier applied to the result for carbon tetrachloride in STACK-20 to indicate a concentration between the method detection limit (MDL) and the reporting limit (RL) was not removed by the validator.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

I. Holding Times, Preservation, and Sample Integrity

All TO-15 analyses were performed within holding time. A copy of the Laboratory Login Sample Receipt Checklist noted that all samples were received in good condition with cooler and container custody seals intact. Copies of the chain of custody records were also present in the data package and included all of the samples in this data set. Therefore, all requirements for holding times and sample integrity were met. No physical preservation requirements are specified for Summa® canisters.

II. GC/MS Instrument Performance Checks

Results were reported for three bromofluorobenzene (BFB) instrument performance checks. Requirements for all three instrument performance checks were met.

III. Calibration

These samples were analyzed on a single gas chromatography/mass spectrometry (GC/MS) system identified as "CHC." No evidence was presented in the data package to indicate that manual integrations were performed on any of the project-specified target compounds or on any of the internal standards in any of the calibration standards.

A. Initial Calibration (IC) and Initial Calibration Verification (ICV)

IC was established on April 3-4, 2016. An ICV was analyzed following the IC. EPA Region II-specified acceptance criteria were met for all of these standards.

B. Continuing Verification (CV)

Documentation of two CV standards was present in the data package. All reported sample analyses were associated with these standards, and all EPA Region II-specified acceptance criteria were met.

IV. Blanks

A laboratory blank was analyzed in each analytical sequence containing the site samples. No project-specified target analytes were detected in either of the laboratory blanks.

A trip blank (TB040116) was submitted with the samples in this data set. No project-specified target analytes were detected in TB040116.

V. Surrogate Recoveries

The use of a surrogate compound is not addressed in Method TO-15. A surrogate compound was not employed in the analyses of these samples.

VI. Laboratory Check Standard (Audit Accuracy Standard)

A 10 ppbv laboratory check standard (identified as LCS) was analyzed in each analytical sequence containing the reported samples. Each LCS was spiked with all of the project-specified target analytes at 10 parts per billion volume to volume (ppb v/v). With the exception of acetone (142%) in the LCS analyzed on April 11, 2016, recoveries of the target analytes were within the quality control limits specified by the validation guidance document (70-130%).

The high recovery of acetone in the LCS noted above suggests the potential for reporting false positives and/or high bias to positively reported results. Acetone was not detected in either of the associated sample analyses (the more diluted analyses of VMW-3C-20 and SVE-A) and no action was warranted on this basis. The laboratory-applied "*" qualifier used to indicate a result associated with an unacceptable LCS result were removed by the validator.

VII. Laboratory Replicate Analyses

STACK-20 was analyzed as a laboratory replicate. Reproducibility between positively paired results for acetone (4 relative percent difference [RPD]) and carbon tetrachloride (0 RPD) was within the laboratory-specified acceptance limits (≤ 25 RPD). Methylene chloride and chloroform were not detected in either analysis of this sample; therefore, no further quantitative evaluation of precision could be made from these data.

VIII. Field Duplicates

Collection of true field duplicates is not feasible for air samples; therefore, a better description of these quality control samples would be co-located samples. The validation guidance document does not provide an acceptance criterion for RPDs between reported concentrations in "field duplicate" samples. For the purpose of this validation effort, a maximum acceptance limit of 100 RPD was used to define acceptable agreement between reported results in the co-located samples. Results with RPD values greater than 100 RPD should be used with caution as the concentration and source of these compounds in the reported samples is uncertain.

SVE-A is a co-located sample of VMW-3C-20. Agreement between results for chloroform (3 RPD) and carbon tetrachloride (1 RPD) were acceptable. Acetone and methylene chloride were not detected in either of these samples; therefore, no further quantitative evaluation of precision could be made from these data.

IX. Internal Standard Performance

The validator confirmed that the areas and retention times of all three internal standards were within the method-specified acceptance limits for the reported site and quality control analyses.

X. Target Compound Identification

When detected, the target analyte was correctly identified with acceptable supporting mass spectral data present in the data package.

XI. Compound Quantitation and Reporting Limits (RLs)

All sample results and RLs were correctly calculated and accurately reported, including adjustments for dilutions, where necessary.

Results for carbon tetrachloride in VMW-3C-20 and SVE-A exceeded the calibration range of the instrument and were qualified as estimated (J) on this basis. Both samples were reanalyzed and concentrations of carbon tetrachloride were within the calibration range in the more-diluted analyses. The validator "hybridized" the less-diluted laboratory answer forms for both of these samples to indicate the results that are recommended for use. The more-diluted laboratory answer forms were marked "Do Not Use" for clarity. The validator removed all "E" and "D" qualifiers applied by the laboratory to indicate a concentration that exceeded the calibration range and a result from a more-diluted analysis, respectively.

A RL of $\leq$0.50 ppbv is a required performance criterion for this project. The low concentration standards in the IC were 0.50 ppbv for methylene chloride, 0.20 ppbv for chloroform, and 0.04 ppbv for carbon tetrachloride. The unadjusted RLs are equivalent to or higher than the low concentration standard used to establish the IC and are supported by the reported data.

The low concentration IC standard for acetone was 5.0 ppbv, which is also the RL used for this analyte and supported by the reported data. The RL for acetone does not meet the performance criterion for this project, but does reflect the best efforts of the laboratory.

The laboratory-applied "J" qualifier applied to the result for carbon tetrachloride in STACK-20 to indicate a concentration between the MDL and the RL was not removed by the validator.

XII. Tentatively Identified Compounds (TICs)

Library searches were not requested for these samples.

XIII. Documentation

The laboratory "samples received by" signature is illegible.

All of the laboratory sample receipt information was provided on the laboratory-generated Login Sample Receipt Checklist, which confirmed that all samples were properly documented and shipped in custody sealed containers.

A copy of the FedEx airbill was included in the data package to document the transfer of the samples from the field to the laboratory.

The Laboratory Analytical Data Forms also include a column identified as MDL. Unadjusted MDLs for the target compounds are not supported by the data as received. Therefore, it is recommended that the RLs rather than the MDLs be used as the lowest supported limit of detection.

XIV. Overall Assessment

Findings of the validation effort resulted in the following qualifications of sample results:

- Results for carbon tetrachloride in less-diluted analyses of VMW-3C-20 and SVE-A were qualified as estimated (J) because the concentrations exceeded the calibration range of the instrument. Both samples were reanalyzed and concentrations of carbon tetrachloride were within the calibration range in the more-diluted analyses.

The validator "hybridized" the less-diluted laboratory answer forms for VMW-3C-20 and SVE-A to indicate the results recommended for use. The more-diluted laboratory answer forms were marked "Do Not Use" for clarity. The validator removed all "E" and "D" qualifiers applied by the laboratory to indicate a concentration that exceeded the calibration range and a result from a more-diluted analysis, respectively.

The laboratory-applied "*" qualifier used to indicate a result associated with an unacceptable LCS result were removed by the validator.

The laboratory-applied "J" qualifier applied to the result for carbon tetrachloride in STACK-20 to indicate a concentration between the MDL and the RL was not removed by the validator.

This validation effort is based on the data as provided by the laboratory. Software manipulation cannot be routinely detected during validation and is outside the scope of this review.

This validation report should be added to the data package for all future distributions of the TO-15 data reported in SDG 200-32818.

Eden Environmental, LLC

ATTACHMENT A

LABORATORY ANALYTICAL DATA FORMS

Client: Ertec

Job Number: 200-32818-1
Sdg Number: 200-32818-1

Client Sample ID: **STACK-20**

Lab Sample ID: 200-32818-6
Client Matrix: Air

Date Sampled: 04/01/2016 1418
Date Received: 04/02/2016 1010

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-102942	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19287_15.D
Dilution:	1.0			Initial Weight/Volume:	200 mL
Analysis Date:	04/08/2016 2310			Final Weight/Volume:	200 mL
Prep Date:	04/08/2016 2310			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	6.8		0.86	5.0
Methylene Chloride	0.50	U	0.18	0.50
Chloroform	0.20	U	0.082	0.20
Carbon tetrachloride	0.18	J	0.032	0.20

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	16		2.0	12
Methylene Chloride	1.7	U	0.63	1.7
Chloroform	0.98	U	0.40	0.98
Carbon tetrachloride	1.1	J	0.20	1.3

Client: Ertec

Job Number: 200-32818-1
Sdg Number: 200-32818-1

Client Sample ID: **INLET-20**

Lab Sample ID: 200-32818-5
Client Matrix: Air

Date Sampled: 04/01/2016 1409
Date Received: 04/02/2016 1010

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-102942	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19287_14.D
Dilution:	3100			Initial Weight/Volume:	46 mL
Analysis Date:	04/08/2016 2217			Final Weight/Volume:	200 mL
Prep Date:	04/08/2016 2217			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	16000	U	2700	16000
Methylene Chloride	1600	U	560	1600
Chloroform	3600		250	620
Carbon tetrachloride	110000		99	620

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	37000	U	6300	37000
Methylene Chloride	5400	U	1900	5400
Chloroform	18000		1200	3000
Carbon tetrachloride	710000		620	3900

Client: Ertec

Job Number: 200-32818-1
Sdg Number: 200-32818-1

Client Sample ID: **VMW-1-20**

Lab Sample ID: 200-32818-1
Client Matrix: Air

Date Sampled: 04/01/2016 1337
Date Received: 04/02/2016 1010

TO-15 Volatile Organic Compounds In Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-102942	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19287_10.D
Dilution:	5880			Initial Weight/Volume:	24 mL
Analysis Date:	04/08/2016 1845			Final Weight/Volume:	200 mL
Prep Date:	04/08/2016 1845			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	29000	U	5100	29000
Methylene Chloride	2900	U	1100	2900
Chloroform	3700		480	1200
Carbon tetrachloride	200000		190	1200

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	70000	U	12000	70000
Methylene Chloride	10000	U	3700	10000
Chloroform	18000		2400	5700
Carbon tetrachloride	1200000		1200	7400

Client: Ertec

Job Number: 200-32818-1
Sdg Number: 200-32818-1

Client Sample ID: **VMW-2-20**

Lab Sample ID: 200-32818-2
Client Matrix: Air

Date Sampled: 04/01/2016 1345
Date Received: 04/02/2016 1010

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-102942	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19287_11.D
Dilution:	2840			Initial Weight/Volume:	54 mL
Analysis Date:	04/08/2016 1938			Final Weight/Volume:	200 mL
Prep Date:	04/08/2016 1938			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	14000	U	2400	14000
Methylene Chloride	1400	U	510	1400
Chloroform	2300		230	570
Carbon tetrachloride	76000		91	570

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	34000	U	5800	34000
Methylene Chloride	4900	U	1800	4900
Chloroform	11000		1100	2800
Carbon tetrachloride	480000		570	3600

Client: Ertec

Job Number: 200-32818-1
Sdg Number: 200-32818-1

Client Sample ID: **VMW-3C-20**

Lab Sample ID: 200-32818-3
Client Matrix: Air

Date Sampled: 04/01/2016 1354
Date Received: 04/02/2016 1010

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-102942	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19287_12.D
Dilution:	1670, 4460 ese 04/28/16			Initial Weight/Volume:	28 mL
Analysis Date:	04/08/2016 2031			Final Weight/Volume:	200 mL
Prep Date:	04/08/2016 2031			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	8400	U	1400	8400
Methylene Chloride	840	U	300	840
Chloroform	3500		140	330
Carbon tetrachloride	~~80000~~ 80000	~~E~~	~~53~~ 140	~~330~~ 890

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	20000	U	3400	20000
Methylene Chloride	2900	U	1000	2900
Chloroform	17000		670	1600
Carbon tetrachloride	~~560000~~ 510000	~~E~~	~~340~~ 900	~~2100~~ 5600

ese 04/28/16

Client: Ertec

Job Number: 200-32818-1
Sdg Number: 200-32818-1

Client Sample ID: **VMW-3C-20**

Lab Sample ID: 200-32818-3
Client Matrix: Air

Date Sampled: 04/01/2016 1354
Date Received: 04/02/2016 1010

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-103013	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19329_05.D
Dilution:	4460			Initial Weight/Volume:	38 mL
Analysis Date:	04/11/2016 1501	Run Type:	DL	Final Weight/Volume:	200 mL
Prep Date:	04/11/2016 1501			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	22000	U	3800	22000
Methylene Chloride	2200	U	800	2200
Chloroform	3600	~~D~~	370	890
Carbon tetrachloride	80000	~~D~~	140	890

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	53000	U	9100	53000
Methylene Chloride	7700	U	2800	7700
Chloroform	17000	~~D~~	1800	4400
Carbon tetrachloride	510000		900	5600

Do Not Use rsw 04/28/16

Client: Ertec

Job Number: 200-32818-1
Sdg Number: 200-32818-1

Client Sample ID: **SVE-A**

Lab Sample ID: 200-32818-4
Client Matrix: Air

Date Sampled: 04/01/2016 1359
Date Received: 04/02/2016 1010

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-102942	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19287_13.D
Dilution:	1990, 4180 ere 04/28/16			Initial Weight/Volume:	23 mL
Analysis Date:	04/08/2016 2124			Final Weight/Volume:	200 mL
Prep Date:	04/08/2016 2124			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	10000	U	1700	10000
Methylene Chloride	1000	U	360	1000
Chloroform	3400		160	400
Carbon tetrachloride	~~84000~~ 79000	~~E~~	~~64~~ 130	~~400~~ 840

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	24000	U	4100	24000
Methylene Chloride	3500	U	1200	3500
Chloroform	17000		800	1900
Carbon tetrachloride	~~530000~~ 490,000	~~E~~	~~400~~ 840	~~2500~~ 5300

ere 04/28/16

Client: Ertec

Job Number: 200-32818-1
Sdg Number: 200-32818-1

Client Sample ID: **SVE-A**

Lab Sample ID: 200-32818-4
Client Matrix: Air

Date Sampled: 04/01/2016 1359
Date Received: 04/02/2016 1010

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-103013	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19329_06.D
Dilution:	4180			Initial Weight/Volume:	40 mL
Analysis Date:	04/11/2016 1554	Run Type:	DL	Final Weight/Volume:	200 mL
Prep Date:	04/11/2016 1554			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	21000	U	3600	21000
Methylene Chloride	2100	U	750	2100
Chloroform	3500	D	340	840
Carbon tetrachloride	79000	D	130	840

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	50000	U	8500	50000
Methylene Chloride	7300	U	2600	7300
Chloroform	17000	D	1700	4100
Carbon tetrachloride	490000	D	840	5300

Do not use sm 04/28/16 sm 04/28/16

Client: Ertec

Job Number: 200-32818-1
Sdg Number: 200-32818-1

Client Sample ID: **TB040116**

Lab Sample ID: 200-32818-7
Client Matrix: Air

Date Sampled: 04/01/2016 0000
Date Received: 04/02/2016 1010

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method: TO-15
Prep Method: Summa Can
Dilution: 1.0
Analysis Date: 04/09/2016 0056
Prep Date: 04/09/2016 0056

Analysis Batch: 200-102942
Prep Batch: N/A

Instrument ID: CHC.i
Lab File ID: 19287_17.D
Initial Weight/Volume: 200 mL
Final Weight/Volume: 200 mL
Injection Volume: 200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	5.0	U	0.86	5.0
Methylene Chloride	0.50	U	0.18	0.50
Chloroform	0.20	U	0.082	0.20
Carbon tetrachloride	0.20	U	0.032	0.20

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	12	U	2.0	12
Methylene Chloride	1.7	U	0.63	1.7
Chloroform	0.98	U	0.40	0.98
Carbon tetrachloride	1.3	U	0.20	1.3

ATTACHMENT B

EPA REGION II QUALIFIERS AND THEIR DEFINITIONS

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity; but the result may be biased high.

J- The result is an estimated quantity; but the result may be biased low.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was analyzed for but not detected. The reported quantitation limit may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

Eden Environmental, LLC

May 24, 2016

Ms. Wanda Morales
ERTEC
Amur St. A - #5
Reparto Landrau
Rio Piedras, PR 00921

RE: Data Validation Report for the SVE TO-15 Air Monitoring of the Pfizer Arecibo Site

Dear Wanda,

Enclosed is the validation report for the air samples collected on May 2, 2016, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-33397:

STACK-21	INLET-21	VMW-1-21
VMW-2-21	VMW-3C-21	

The data package was received for validation on May 18, 2016. The laboratory performed well, but some qualifications of sample results were necessary. The laboratory-applied "E" and "D" qualifiers used to indicate concentrations above the calibration range and results from a more diluted analysis, respectively, were removed by the validator.

All samples were analyzed for acetone, methylene chloride, chloroform, and carbon tetrachloride in conformance with the specifications of USEPA Compendium Method TO-15. The validation effort was restricted to the reported results and supporting data for these compounds.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Eden Environmental, LLC

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

If you have any questions regarding this report, please give me a call at 225-355-0163 or contact me by e-mail at engrid@eden-env.com

Kindest regards,

Engrid Carpenter

Engrid S. Carpenter
President

Eden Environmental, LLC

ANALYTICAL DATA VALIDATION

ERTEC JOB DESCRIPTION – PFIZER ARECIBO – SVE

ERTEC JOB NUMBER –15-5384

ORGANIC ANALYSIS DATA

Prepared by: TestAmerica Laboratory, Burlington Vermont
Sample Delivery Group: 200-33397
Selected Volatile Organic Compounds in Air Samples

VALIDATION REPORT

Prepared by: Eden Environmental, LLC
Eden Project Number 13103

Date: May 24, 2016

13103/ESC/CEW
200-33397-TO-15

Eden Environmental, LLC

INTRODUCTION

Enclosed is the validation report for the air samples collected on May 2, 2016, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-33397:

STACK-21	INLET-21	VMW-1-21
VMW-2-21	VMW-3C-21	

The data package was received for validation on May 18, 2016. The laboratory performed well, but some qualifications of sample results were necessary. The laboratory-applied "E" and "D" qualifiers used to indicate concentrations above the calibration range and results from a more diluted analysis, respectively, were removed by the validator.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

I. Holding Times, Preservation, and Sample Integrity

All TO-15 analyses were performed within holding time. A copy of the Laboratory Login Sample Receipt Checklist noted that all samples were received in good condition with custody seals intact. A copy of the chain of custody record was also present in the data package and included all of the samples in this data set. Therefore, all requirements for holding times and sample integrity were met. No physical preservation requirements are specified for Summa® canisters.

II. GC/MS Instrument Performance Checks

Results were reported for six bromofluorobenzene (BFB) instrument performance checks. Requirements for all six instrument performance checks were met.

III. Calibration

These samples were analyzed on three gas chromatography/mass spectrometry (GC/MS) systems identified as "CHB," "CHC," and "CHG." Manual integrations were performed for carbon tetrachloride in 0.04 parts per billion volume/volume (ppb v/b) on instrument CHC and for chloroform in the 0.20 ppb v/v standard on instrument CHG. Documentation of these integrations was included in the data package and confirmed that they were properly performed correctly incorporated into the associated quantitation report. No evidence was presented in the data package to indicate that manual integrations were performed on any of the remaining project-specified target compounds or on any of the internal standards in any of the calibration standards.

A. Initial Calibration (IC) and Initial Calibration Verification (ICV)

ICs were established on May 3, 2016, on instrument CHB, on April 25, 2016, on instrument CHC, and on April 13-14, 2016 on instrument CHG. An ICV was analyzed following each IC. EPA Region II-specified acceptance criteria were met for all of these standards.

B. Continuing Verification (CV)

Documentation of three CV standards, one on each instrument, was present in the data package. All reported sample analyses were associated with these standards, and all EPA Region II-specified acceptance criteria were met.

IV. Blanks

A laboratory blank was analyzed in each analytical sequence containing the site samples. No project-specified target analytes were detected in either of the laboratory blanks.

V. Surrogate Recoveries

The use of a surrogate compound is not addressed in Method TO-15. A surrogate compound was not employed in the analyses of these samples.

VI. Laboratory Check Standard (Audit Accuracy Standard)

A 10 ppbv laboratory check standard (identified as LCS) was analyzed in each analytical sequence containing the reported samples. Each LCS was spiked with all of the project-specified target analytes at 10 ppb v/v. All recoveries of the target analytes were within the quality control limits specified by the validation guidance document (70-130%).

VII. Laboratory Replicate Analyses

STACK-21 was analyzed as a laboratory replicate. Reproducibility between positively paired results for chloroform (3 relative percent difference [RPD]) and carbon tetrachloride (0.7 RPD) was within the laboratory-specified acceptance limits ($\leq$25 RPD). Acetone and methylene chloride were not detected in either analysis of this sample; therefore, no further quantitative evaluation of precision could be made from these data.

VIII. Field Duplicates

Collection of true field duplicates is not feasible for air samples; therefore, a better description of these quality control samples would be co-located samples. The validation guidance document does not provide an acceptance criterion for RPDs between reported concentrations in "field duplicate" samples. For the purpose of this validation effort, a maximum acceptance limit of 100 RPD was used to define acceptable agreement between reported results in the co-located samples. Results with RPD values greater than 100 RPD should be used with caution as the concentration and source of these compounds in the reported samples is uncertain. No co-located samples were included in this data set.

IX. Internal Standard Performance

The validator confirmed that the areas and retention times of all three internal standards were within the method-specified acceptance limits for the reported site and quality control analyses.

X. Target Compound Identification

When detected, the target analyte was correctly identified with acceptable supporting mass spectral data present in the data package.

XI. Compound Quantitation and Reporting Limits (RLs)

All sample results and RLs were correctly calculated and accurately reported, including adjustments for dilutions, where necessary.

Results for carbon tetrachloride in Stack-21, Inlet-21, VMW-1-21, and VMW-2-21 exceeded the calibration range of the instrument and were qualified as estimated (J) on this basis. All four of these samples were reanalyzed and concentrations of carbon tetrachloride were within the calibration range in the more-diluted analyses. The validator "hybridized" the less-diluted laboratory answer forms for these samples to indicate the results that are recommended for use. The more-diluted laboratory answer forms were marked "Do Not Use" for clarity. The validator removed all "E" and "D" qualifiers applied by the laboratory to indicate a concentration that exceeded the calibration range and a result from a more-diluted analysis, respectively.

A RL of $\leq$0.50 ppbv is a required performance criterion for this project. The low concentration standards in the IC were 0.50 ppbv for methylene chloride, 0.20 ppbv for chloroform, and 0.04 ppbv for carbon tetrachloride. The unadjusted RLs are equivalent to or higher than the low concentration standard used to establish the IC and are supported by the reported data.

The low concentration IC standard for acetone was 5.0 ppbv, which is also the RL used for this analyte and supported by the reported data. The RL for acetone does not meet the performance criterion for this project, but does reflect the best efforts of the laboratory.

XII. Tentatively Identified Compounds (TICs)

Library searches were not requested for these samples.

XIII. Documentation

The laboratory "samples received by" signature is illegible.

All of the laboratory sample receipt information was provided on the laboratory-generated Login Sample Receipt Checklist, which confirmed that all samples were properly documented and shipped in custody sealed containers.

A copy of the FedEx airbill was included in the data package to document the transfer of the samples from the field to the laboratory.

The Laboratory Analytical Data Forms also include a column identified as MDL. Unadjusted MDLs for the target compounds are not supported by the data as received. Therefore, it is recommended that the RLs rather than the MDLs be used as the lowest supported limit of detection.

XIV. Overall Assessment

Findings of the validation effort resulted in the following qualifications of sample results:

- Results for carbon tetrachloride in less-diluted analyses of Stack-21, Inlet-21, VMW-1-21, and VMW-2-21 were qualified as estimated (J) because the concentrations exceeded the calibration range of the instrument. Both samples were reanalyzed and concentrations of carbon tetrachloride were within the calibration range in the more-diluted analyses.

The validator "hybridized" the less-diluted laboratory answer forms for Stack-21, Inlet-21, VMW-1-21, and VMW-2-21 to indicate the results recommended for use. The more-diluted laboratory answer forms were marked "Do Not Use" for clarity. The validator removed all "E" and "D" qualifiers applied by the laboratory to indicate a concentration that exceeded the calibration range and a result from a more-diluted analysis, respectively.

This validation effort is based on the data as provided by the laboratory. Software manipulation cannot be routinely detected during validation and is outside the scope of this review.

This validation report should be added to the data package for all future distributions of the TO-15 data reported in SDG 200-33397.

Eden Environmental, LLC

ATTACHMENT A

LABORATORY ANALYTICAL DATA FORMS

Client: Ertec

Job Number: 200-33397-1
Sdg Number: 200-33397-1

Client Sample ID: STACK-21

Lab Sample ID: 200-33397-5
Client Matrix: Air

Date Sampled: 05/02/2016 1344
Date Received: 05/04/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method: TO-15
Prep Method: Summa Can
Dilution: 71.3, 143 ~~ere~~ 05/24/16
Analysis Date: 05/11/2016 0602
Prep Date: 05/11/2016 0602

Analysis Batch: 200-104374
Prep Batch: N/A

Instrument ID: CHG.i
Lab File ID: 19898_21.D
Initial Weight/Volume: 40 mL
Final Weight/Volume: 200 mL
Injection Volume: 200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	360	U	61	360
Methylene Chloride	36	U	13	36
Chloroform	180		5.8	14
Carbon tetrachloride	~~3700~~ 3600	~~E~~	~~2.8~~ 4.6	~~14~~ 29

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	850	U	150	850
Methylene Chloride	120	U	45	120
Chloroform	900		29	70
Carbon tetrachloride	~~23000~~ 22000	~~E~~	~~14~~ 29	~~90~~ 180

ere 05/24/16

Client: Ertec

Job Number: 200-33397-1
Sdg Number: 200-33397-1

Client Sample ID: STACK-21 DL use 05/24/16

Lab Sample ID: 200-33397-5
Client Matrix: Air

Date Sampled: 05/02/2016 1344
Date Received: 05/04/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-104488	Instrument ID:	CHB.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19959_07.D
Dilution:	143			Initial Weight/Volume:	20 mL
Analysis Date:	05/12/2016 1513	Run Type:	DL	Final Weight/Volume:	200 mL
Prep Date:	05/12/2016 1513			Injection Volume:	5 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	720	U	120	720
Methylene Chloride	72	U	26	72
Chloroform	170	~~U~~	12	29
Carbon tetrachloride	3600	~~U~~	4.6	29

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	1700	U	290	1700
Methylene Chloride	250	U	89	250
Chloroform	840	~~U~~	57	140
Carbon tetrachloride	22000	~~U~~	29	180

05/24/16 use

Do Not Use use

Client: Ertec

Job Number: 200-33397-1
Sdg Number: 200-33397-1

Client Sample ID: INLET-21

Lab Sample ID: 200-33397-4
Client Matrix: Air

Date Sampled: 05/02/2016 1334
Date Received: 05/04/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-104374	Instrument ID:	CHG.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19898_20.D
Dilution:	834, 1580 use 05/24/16			Initial Weight/Volume:	23 mL
Analysis Date:	05/11/2016 0511			Final Weight/Volume:	200 mL
Prep Date:	05/11/2016 0511			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	4200	U	720	4200
Methylene Chloride	420	U	150	420
Chloroform	2400		68	170
Carbon tetrachloride	~~40000~~ 43000	~~E~~	~~27~~ 51	~~170~~ 320

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	9900	U	1700	9900
Methylene Chloride	1400	U	520	1400
Chloroform	12000		330	810
Carbon tetrachloride	~~250000~~ 270000	~~E~~	~~170~~ 320	~~1000~~ 2000

Client: Ertec

Job Number: 200-33397-1
Sdg Number: 200-33397-1

Client Sample ID: INLET-21 DL esa 05/24/16

Lab Sample ID: 200-33397-4
Client Matrix: Air

Date Sampled: 05/02/2016 1334
Date Received: 05/04/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-104447	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19939_26.D
Dilution:	1580			Initial Weight/Volume:	28 mL
Analysis Date:	05/12/2016 1025	Run Type:	DL	Final Weight/Volume:	200 mL
Prep Date:	05/12/2016 1025			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	7900	U	1400	7900
Methylene Chloride	790	U	280	790
Chloroform	2200	~~D~~	130	320
Carbon tetrachloride	43000	~~D~~	51	320

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	19000	U	3200	19000
Methylene Chloride	2700	U	990	2700
Chloroform	11000	~~D~~	630	1500
Carbon tetrachloride	270000	~~D~~	320	2000

esa 05/24/16

Do Not Use esa 05/24/16

Client: Ertec

Job Number: 200-33397-1
Sdg Number: 200-33397-1

Client Sample ID: VMW-1-21

Lab Sample ID: 200-33397-1
Client Matrix: Air

Date Sampled: 05/02/2016 1309
Date Received: 05/04/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-104374	Instrument ID:	CHG.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19898_17.D
Dilution:	1750 , 2370 ~~~ 05/24/16			Initial Weight/Volume:	27 mL
Analysis Date:	05/11/2016 0238			Final Weight/Volume:	200 mL
Prep Date:	05/11/2016 0238			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	8800	U	1500	8800
Methylene Chloride	880	U	320	880
Chloroform	4600		140	350
Carbon tetrachloride	~~84000~~ 72000	~~E~~	~~56~~ 76	~~350~~ 470

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	21000	U	3600	21000
Methylene Chloride	3000	U	1100	3000
Chloroform	23000		700	1700
Carbon tetrachloride	~~530000~~ 450,000	~~E~~	~~350~~ 480	~~2200~~ 3000

~~~ 05/24/16
~~~

Client: Ertec

Job Number: 200-33397-1
Sdg Number: 200-33397-1

Client Sample ID: VMW-1-21 DL ere 05/24/16

Lab Sample ID: 200-33397-1
Client Matrix: Air

Date Sampled: 05/02/2016 1309
Date Received: 05/04/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-104447	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19939_24.D
Dilution:	2370			Initial Weight/Volume:	20 mL
Analysis Date:	05/12/2016 0838	Run Type:	DL	Final Weight/Volume:	200 mL
Prep Date:	05/12/2016 0838			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	12000	U	2000	12000
Methylene Chloride	1200	U	430	1200
Chloroform	4000	~~D~~	190	470
Carbon tetrachloride	72000	~~D~~	76	470

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	28000	U	4800	28000
Methylene Chloride	4100	U	1500	4100
Chloroform	20000	~~D~~	950	2300
Carbon tetrachloride	450000	~~D~~	480	3000

ere 05/24/16

Do Not Use ere 05/24/16

Client: Ertec

Job Number: 200-33397-1
Sdg Number: 200-33397-1

Client Sample ID: **VMW-2-21**

Lab Sample ID: 200-33397-2
Client Matrix: Air

Date Sampled: 05/02/2016 1317
Date Received: 05/04/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method: TO-15
Prep Method: Summa Can
Dilution: 1100, 1430 ere 05/24/16
Analysis Date: 05/11/2016 0329
Prep Date: 05/11/2016 0329

Analysis Batch: 200-104374
Prep Batch: N/A

Instrument ID: CHG.i
Lab File ID: 19898_18.D
Initial Weight/Volume: 26 mL
Final Weight/Volume: 200 mL
Injection Volume: 200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	5500	U	950	5500
Methylene Chloride	550	U	200	550
Chloroform	2600		90	220
Carbon tetrachloride	~~46000~~ 42000	E	~~35~~ 46	~~220~~ 290

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	13000	U	2200	13000
Methylene Chloride	1900	U	690	1900
Chloroform	13000		440	1100
Carbon tetrachloride	~~290000~~ 260000	E	~~220~~ 290	~~1400~~ 1800

ere 05/24/16

Client: Ertec

Job Number: 200-33397-1
Sdg Number: 200-33397-1

Client Sample ID: VMW-2-21 DL ere 05/24/16

Lab Sample ID: 200-33397-2
Client Matrix: Air

Date Sampled: 05/02/2016 1317
Date Received: 05/04/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-104447	Instrument ID:	CHC.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	19939_25.D
Dilution:	1430			Initial Weight/Volume:	20 mL
Analysis Date:	05/12/2016 0931	Run Type:	DL	Final Weight/Volume:	200 mL
Prep Date:	05/12/2016 0931			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	7200	U	1200	7200
Methylene Chloride	720	U	260	720
Chloroform	2300	D	120	290
Carbon tetrachloride	42000	D	46	290

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	17000	U	2900	17000
Methylene Chloride	2500	U	890	2500
Chloroform	11000	D	570	1400
Carbon tetrachloride	260000	D	290	1800

ere 05/24/16

Do Not Use ere 05/24/16

Client: Ertec

Job Number: 200-33397-1
Sdg Number: 200-33397-1

Client Sample ID: VMW-3C-21

Lab Sample ID: 200-33397-3
Client Matrix: Air

Date Sampled: 05/02/2016 1326
Date Received: 05/04/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method: TO-15
Prep Method: Summa Can
Dilution: 1020
Analysis Date: 05/11/2016 0420
Prep Date: 05/11/2016 0420

Analysis Batch: 200-104374
Prep Batch: N/A

Instrument ID: CHG.i
Lab File ID: 19898_19.D
Initial Weight/Volume: 29 mL
Final Weight/Volume: 200 mL
Injection Volume: 200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	5100	U	880	5100
Methylene Chloride	510	U	180	510
Chloroform	1900		84	200
Carbon tetrachloride	38000		33	200

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	12000	U	2100	12000
Methylene Chloride	1800	U	640	1800
Chloroform	9100		410	1000
Carbon tetrachloride	240000		210	1300

ATTACHMENT B

EPA REGION II QUALIFIERS AND THEIR DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity; but the result may be biased high.
J-	The result is an estimated quantity; but the result may be biased low.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was analyzed for but not detected. The reported quantitation limit may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

Eden Environmental, LLC

July 6, 2016

Ms. Wanda Morales
ERTEC
Amur St. A - #5
Reparto Landrau
Rio Piedras, PR 00921

RE: Data Validation Report for the SVE TO-15 Air Monitoring of the Pfizer Arecibo Site

Dear Wanda,

Enclosed is the validation report for the air samples collected on May 31, 2016, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-33799:

Stack-22	Inlet-22	SVE-A
VMW-1-22	VMW-2-22	VMW-3C-22
TB 053116		

The data package was received for validation on June 21, 2016. The validator did not add any qualifiers to the laboratory-reported results.

All samples were analyzed for acetone, methylene chloride, chloroform, and carbon tetrachloride in conformance with the specifications of USEPA Compendium Method TO-15. The validation effort was restricted to the reported results and supporting data for these compounds.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

If you have any questions regarding this report, please give me a call at 225-355-0163 or contact me by e-mail at engrid@eden-env.com

Kindest regards,

Charlie E. Westerman

Charlie E. Westerman, Ph.D.
Vice President

Eden Environmental, LLC

ANALYTICAL DATA VALIDATION

ERTEC JOB DESCRIPTION – PFIZER ARECIBO – SVE

ERTEC JOB NUMBER –15-5384

ORGANIC ANALYSIS DATA

Prepared by: TestAmerica Laboratory, Burlington Vermont
Sample Delivery Group: 200-33799
Selected Volatile Organic Compounds in Air Samples

VALIDATION REPORT

Prepared by: Eden Environmental, LLC
Eden Project Number 13103

Date: June 6, 2016

13103/CEW/ESC
200-33799-TO-15

Eden Environmental, LLC

INTRODUCTION

Enclosed is the validation report for the air samples collected on May 31, 2016, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-33799:

Stack-22	Inlet-22	SVE-A
VMW-1-22	VMW-2-22	VMW-3C-22
TB 053116		

The data package was received for validation on June 21, 2016. The validator did not add any qualifiers to the laboratory-reported results.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

I. Holding Times, Preservation, and Sample Integrity

All TO-15 analyses were performed within holding time. A copy of the Laboratory Login Sample Receipt Checklist noted that all samples were received in good condition with custody seals intact. Copies of the chain of custody records were also present in the data package and included all of the samples in this data set. Therefore, all requirements for holding times and sample integrity were met. No physical preservation requirements are specified for Summa® canisters.

II. GC/MS Instrument Performance Checks

Results were reported for two bromofluorobenzene (BFB) instrument performance checks. Requirements for both instrument performance checks were met.

III. Calibration

These samples were analyzed on a single gas chromatography/mass spectrometry (GC/MS) system identified as "CHW." No evidence was presented in the data package to indicate that manual integrations were performed on any of the project-specified target compounds or on any of the internal standards in any of the calibration standards.

A. Initial Calibration (IC) and Initial Calibration Verification (ICV)

ICs were established on May 16, 2016. An ICV was analyzed following the IC. EPA Region II-specified acceptance criteria were met for all of these standards.

B. Continuing Verification (CV)

Documentation of a CV standard associated with the site sample analyses was present in the data package. All EPA Region II-specified acceptance criteria was met for this standard.

IV. Blanks

A laboratory blank was analyzed in the analytical sequence containing the site samples. No project-specified target analytes were detected in the laboratory blank.

A trip blank (TB 053116) was submitted with the samples in this data set. No project-specified target analytes were detected in TB 053116.

V. Surrogate Recoveries

The use of a surrogate compound is not addressed in Method TO-15. A surrogate compound was not employed in the analyses of these samples.

VI. Laboratory Check Standard (Audit Accuracy Standard)

A 10 ppbv laboratory check standard (identified as LCS) was analyzed in the analytical sequence containing the reported samples. The LCS was spiked with all of the project-specified target analytes each at 10 ppb v/v. All recoveries of the target analytes were within the quality control limits specified by the validation guidance document (70-130%).

VII. Laboratory Replicate Analyses

Stack-22 was analyzed as a laboratory replicate. Reproducibility between positively paired results for chloroform (3 relative percent difference [RPD]) and carbon tetrachloride (1 RPD) was within the laboratory-specified acceptance limits ($\leq$25 RPD). Acetone and methylene chloride were not detected in either analysis of this sample; therefore, no further quantitative evaluation of precision could be made from these data.

VIII. Field Duplicates

Collection of true field duplicates is not feasible for air samples; therefore, a better description of these quality control samples would be co-located samples. The validation guidance document does not provide an acceptance criterion for RPDs between reported concentrations in "field duplicate" samples. For the purpose of this validation effort, a maximum acceptance limit of 100 RPD was used to define acceptable agreement between reported results in the co-located samples. Results with RPD values greater than 100 RPD should be used with caution as the concentration and source of these compounds in the reported samples is uncertain.

SVE-A was collected as a co-located sample of Inlet-22. Reproducibility between positively paired results for chloroform (4) and carbon tetrachloride (3 RPD) were acceptable. Acetone and methylene chloride were not detected in either analysis of this sample; therefore, no further quantitative evaluation of precision could be made from these data.

IX. Internal Standard Performance

The validator confirmed that the areas and retention times of all three internal standards were within the method-specified acceptance limits for the reported site and quality control analyses.

X. Target Compound Identification

When detected, the target analyte was correctly identified with acceptable supporting mass spectral data present in the data package.

XI. Compound Quantitation and Reporting Limits (RLs)

All sample results and RLs were correctly calculated and accurately reported, including adjustments for dilutions, where necessary.

A RL of ≤0.50 ppbv is a required performance criterion for this project. The low concentration standards in the IC were 0.50 ppbv for methylene chloride, 0.20 ppbv for chloroform, and 0.04 ppbv for carbon tetrachloride. The unadjusted RLs are equivalent to or higher than the low concentration standard used to establish the IC and are supported by the reported data.

The low concentration IC standard for acetone was 5.0 ppbv, which is also the RL used for this analyte and supported by the reported data. The RL for acetone does not meet the performance criterion for this project, but does reflect the best efforts of the laboratory.

XII. Tentatively Identified Compounds (TICs)

Library searches were not requested for these samples.

XIII. Documentation

Copies of the chain of custody records were provided in the data package. The following chain of custody issues were noted:

A notation was included on the chain of custody records indicating the samples were held in a secure location prior to shipment to the laboratory on June 1, 2016.

The laboratory "samples received by" signature is illegible.

All of the laboratory sample receipt information was provided on the laboratory-generated Login Sample Receipt Checklist, which confirmed that all samples were properly documented and shipped in custody sealed containers.

A copy of the FedEx airbill was included in the data package to document the transfer of the samples from the field to the laboratory.

The Laboratory Analytical Data Forms also include a column identified as MDL. Unadjusted MDLs for the target compounds are not supported by the data as received. Therefore, it is recommended that the RLs rather than the MDLs be used as the lowest supported limit of detection.

XIV. Overall Assessment

The laboratory performed well. The validator did not apply any qualifiers to the laboratory-reported results.

This validation effort is based on the data as provided by the laboratory. Software manipulation cannot be routinely detected during validation and is outside the scope of this review.

This validation report should be added to the data package for all future distributions of the TO-15 data reported in SDG 200-33799.

Eden Environmental, LLC

ATTACHMENT A

LABORATORY ANALYTICAL DATA FORMS

Client: Ertec

Job Number: 200-33799-1
Sdg Number: 200-33799-1

Client Sample ID: **STACK-22**

Lab Sample ID: 200-33799-6
Client Matrix: Air

Date Sampled: 05/31/2016 1505
Date Received: 06/02/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-105285	Instrument ID:	CHW.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	20276_21.d
Dilution:	304			Initial Weight/Volume:	36 mL
Analysis Date:	06/04/2016 0346			Final Weight/Volume:	200 mL
Prep Date:	06/04/2016 0346			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	1500	U	260	1500
Methylene Chloride	150	U	55	150
Chloroform	230		25	61
Carbon tetrachloride	5100		9.7	61

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	3600	U	620	3600
Methylene Chloride	530	U	190	530
Chloroform	1100		120	300
Carbon tetrachloride	32000		61	380

Client: Ertec

Job Number: 200-33799-1
Sdg Number: 200-33799-1

Client Sample ID: **INLET-22**

Lab Sample ID: 200-33799-4
Client Matrix: Air

Date Sampled: 05/31/2016 1453
Date Received: 06/02/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-105285	Instrument ID:	CHW.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	20276_19.d
Dilution:	1950			Initial Weight/Volume:	23 mL
Analysis Date:	06/04/2016 0206			Final Weight/Volume:	200 mL
Prep Date:	06/04/2016 0206			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	9800	U	1700	9800
Methylene Chloride	980	U	350	980
Chloroform	2400		160	390
Carbon tetrachloride	51000		62	390

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	23000	U	4000	23000
Methylene Chloride	3400	U	1200	3400
Chloroform	12000		780	1900
Carbon tetrachloride	320000		390	2500

Client: Ertec

Job Number: 200-33799-1
Sdg Number: 200-33799-1

Client Sample ID: **SVE-A**

Lab Sample ID: 200-33799-5
Client Matrix: Air

Date Sampled: 05/31/2016 1456
Date Received: 06/02/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-105285	Instrument ID:	CHW.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	20276_20.d
Dilution:	1750			Initial Weight/Volume:	25 mL
Analysis Date:	06/04/2016 0256			Final Weight/Volume:	200 mL
Prep Date:	06/04/2016 0256			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	8800	U	1500	8800
Methylene Chloride	880	U	320	880
Chloroform	2300		140	350
Carbon tetrachloride	49000		56	350

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	21000	U	3600	21000
Methylene Chloride	3000	U	1100	3000
Chloroform	11000		700	1700
Carbon tetrachloride	310000		350	2200

Client: Ertec

Job Number: 200-33799-1
Sdg Number: 200-33799-1

Client Sample ID: **VMW-1-22**

Lab Sample ID: 200-33799-1
Client Matrix: Air

Date Sampled: 05/31/2016 1427
Date Received: 06/02/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-105285	Instrument ID:	CHW.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	20276_16.d
Dilution:	2410			Initial Weight/Volume:	45 mL
Analysis Date:	06/03/2016 2336			Final Weight/Volume:	200 mL
Prep Date:	06/03/2016 2336			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	12000	U	2100	12000
Methylene Chloride	1200	U	430	1200
Chloroform	3700		200	480
Carbon tetrachloride	68000		77	480

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	29000	U	4900	29000
Methylene Chloride	4200	U	1500	4200
Chloroform	18000		960	2400
Carbon tetrachloride	430000		490	3000

Client: Ertec

Job Number: 200-33799-1
Sdg Number: 200-33799-1

Client Sample ID: **VMW-2-22**

Lab Sample ID: 200-33799-2
Client Matrix: Air

Date Sampled: 05/31/2016 1435
Date Received: 06/02/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method: TO-15
Prep Method: Summa Can
Dilution: 1900
Analysis Date: 06/04/2016 0026
Prep Date: 06/04/2016 0026

Analysis Batch: 200-105285
Prep Batch: N/A

Instrument ID: CHW.i
Lab File ID: 20276_17.d
Initial Weight/Volume: 57 mL
Final Weight/Volume: 200 mL
Injection Volume: 200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	9500	U	1600	9500
Methylene Chloride	950	U	340	950
Chloroform	3000		160	380
Carbon tetrachloride	53000		61	380

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	23000	U	3900	23000
Methylene Chloride	3300	U	1200	3300
Chloroform	15000		760	1900
Carbon tetrachloride	330000		380	2400

Client: Ertec

Job Number: 200-33799-1
Sdg Number: 200-33799-1

Client Sample ID: **VMW-3C-22**

Lab Sample ID: 200-33799-3
Client Matrix: Air

Date Sampled: 05/31/2016 1444
Date Received: 06/02/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-105285	Instrument ID:	CHW.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	20276_18.d
Dilution:	1420			Initial Weight/Volume:	30 mL
Analysis Date:	06/04/2016 0116			Final Weight/Volume:	200 mL
Prep Date:	06/04/2016 0116			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	7100	U	1200	7100
Methylene Chloride	710	U	260	710
Chloroform	1900		120	280
Carbon tetrachloride	45000		45	280

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	17000	U	2900	17000
Methylene Chloride	2500	U	890	2500
Chloroform	9300		570	1400
Carbon tetrachloride	280000		290	1800

Client: Ertec

Job Number: 200-33799-1
Sdg Number: 200-33799-1

Client Sample ID: **TB 053116**

Lab Sample ID: 200-33799-7
Client Matrix: Air

Date Sampled: 05/31/2016 0000
Date Received: 06/02/2016 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-105285	Instrument ID:	CHW.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	20276_23.d
Dilution:	1.0			Initial Weight/Volume:	200 mL
Analysis Date:	06/04/2016 0529			Final Weight/Volume:	200 mL
Prep Date:	06/04/2016 0529			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	5.0	U	0.86	5.0
Methylene Chloride	0.50	U	0.18	0.50
Chloroform	0.20	U	0.082	0.20
Carbon tetrachloride	0.20	U	0.032	0.20

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	12	U	2.0	12
Methylene Chloride	1.7	U	0.63	1.7
Chloroform	0.98	U	0.40	0.98
Carbon tetrachloride	1.3	U	0.20	1.3

ATTACHMENT B

EPA REGION II QUALIFIERS AND THEIR DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity; but the result may be biased high.
J-	The result is an estimated quantity; but the result may be biased low.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was analyzed for but not detected. The reported quantitation limit may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

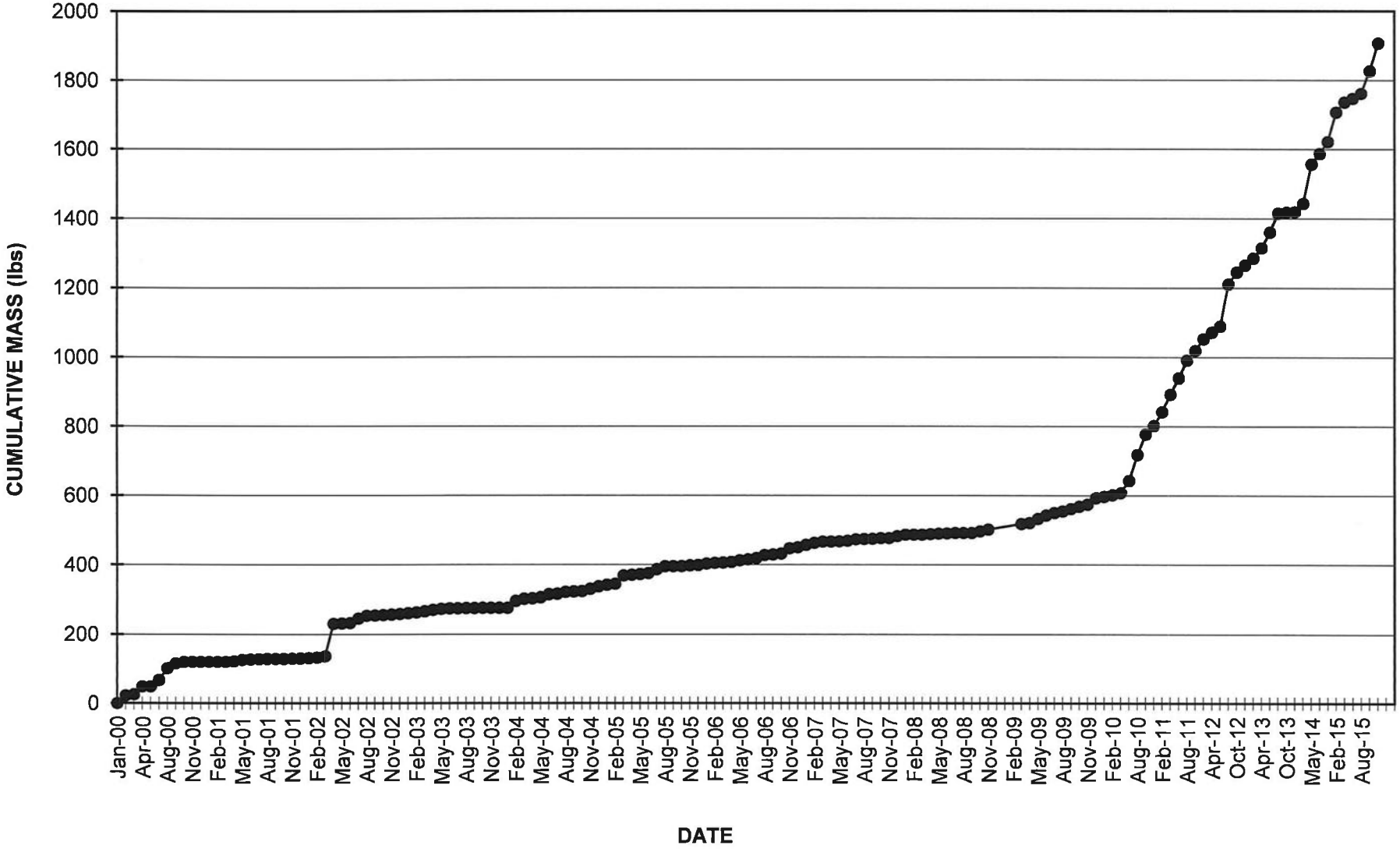
APPENDIX 4

TOTAL VOCs CUMULATIVE MONTHLY EXTRACTION

SVE PULSING OPERATIONS PROGRESS REPORT NO. 11
FEBRUARY TO MAY 2016
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E155384

ERTEC

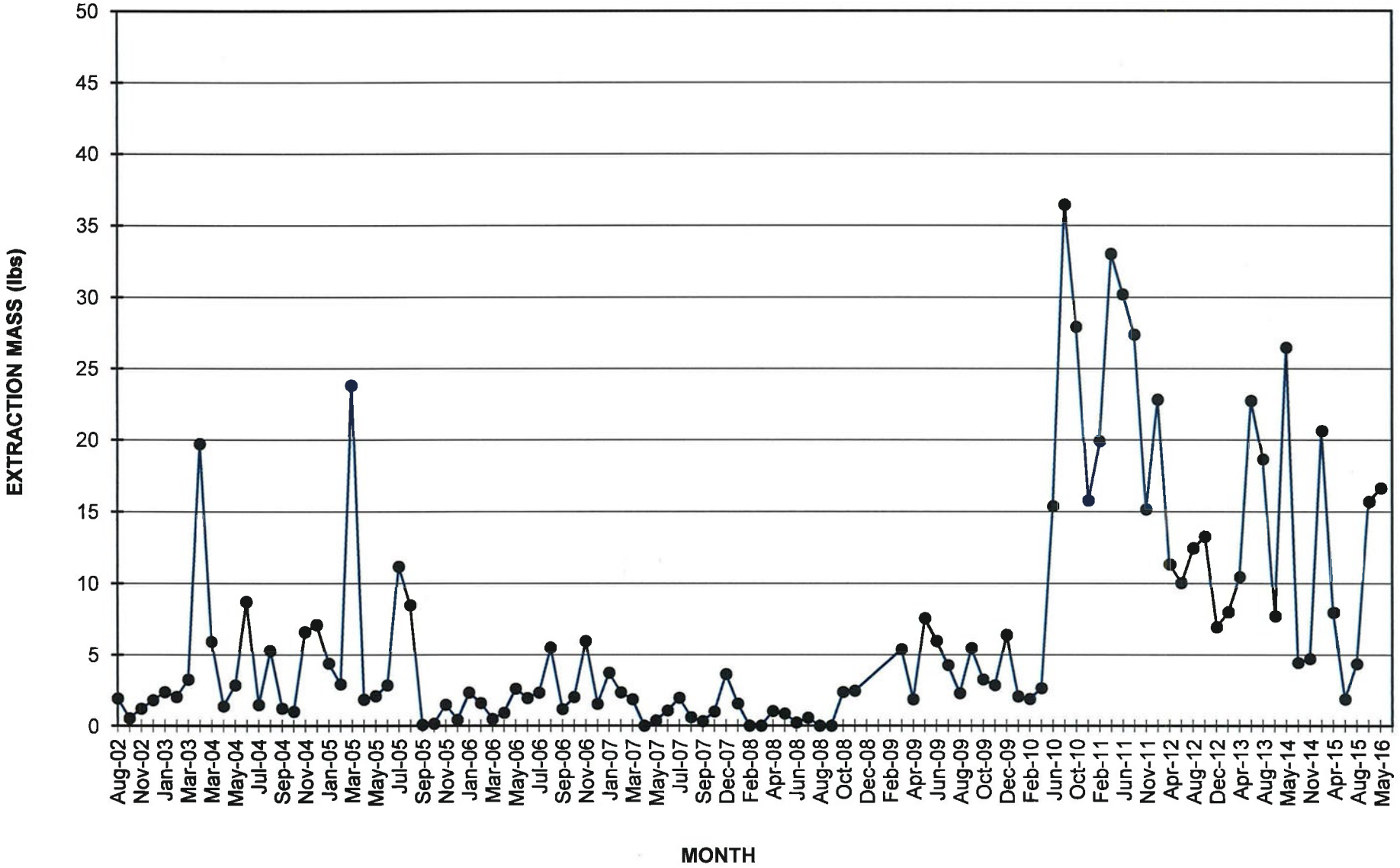
TOTAL VOCs CUMULATIVE MONTHLY EXTRACTION



Pulsing procedures since February 2010. Pulsing on-off periods on 1-month basis from February thru May 2014.
Pulsing on/off periods on 2-months basis from June thru August 2014, and since September 2015.

ERTEC

VMW-1 (150 FEET)
TOTAL VOCs MONTHLY EXTRACTION

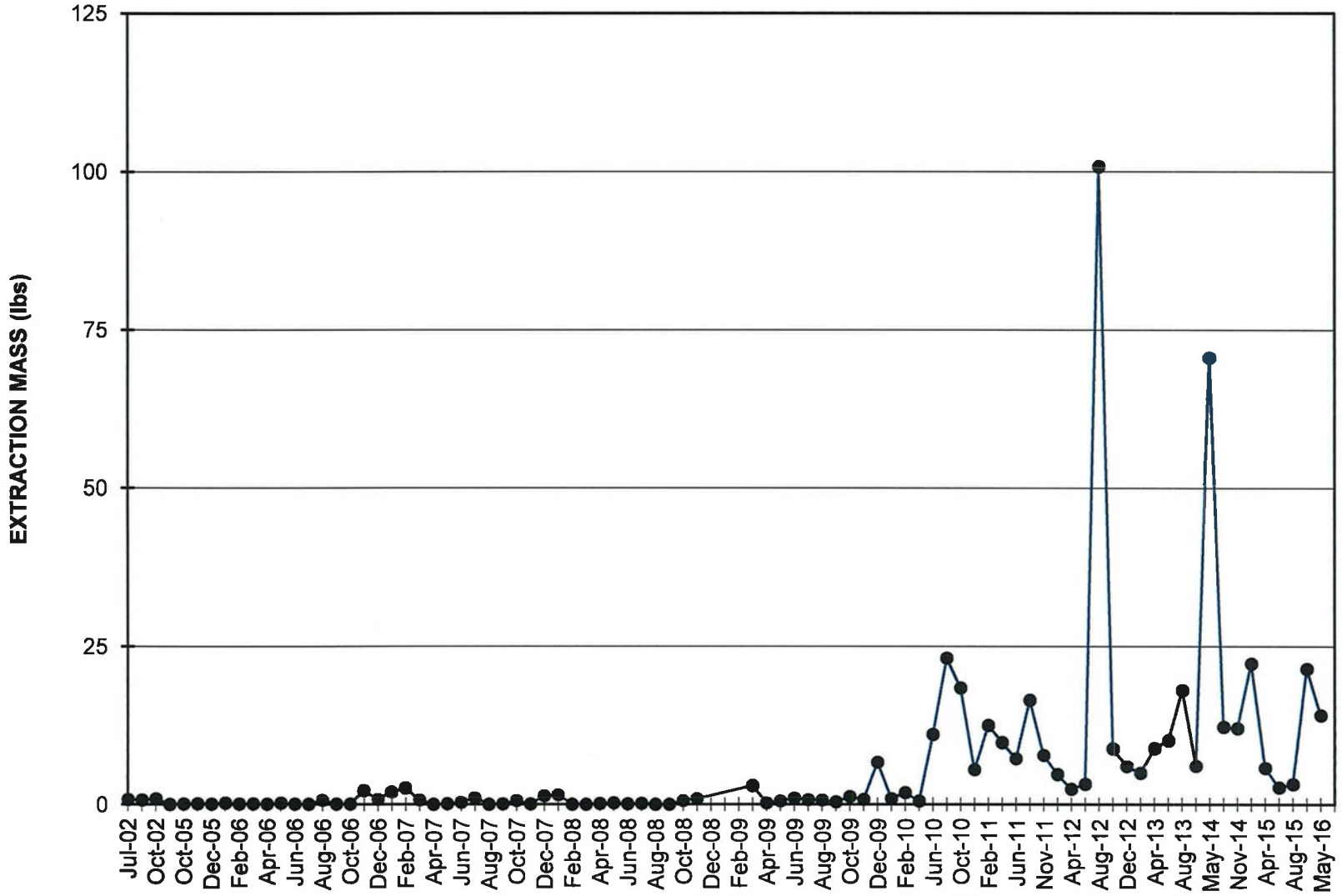


Pulsing procedures since February 2010. Pulsing on-off periods on 1-month basis from February thru May 2014.
Pulsing on/off periods on 2-months basis from June thru August 2014, and since September 2015.

ERTEC

D760634c E155384

VMW-2 (170 FEET)
TOTAL VOCs MONTHLY EXTRACTION

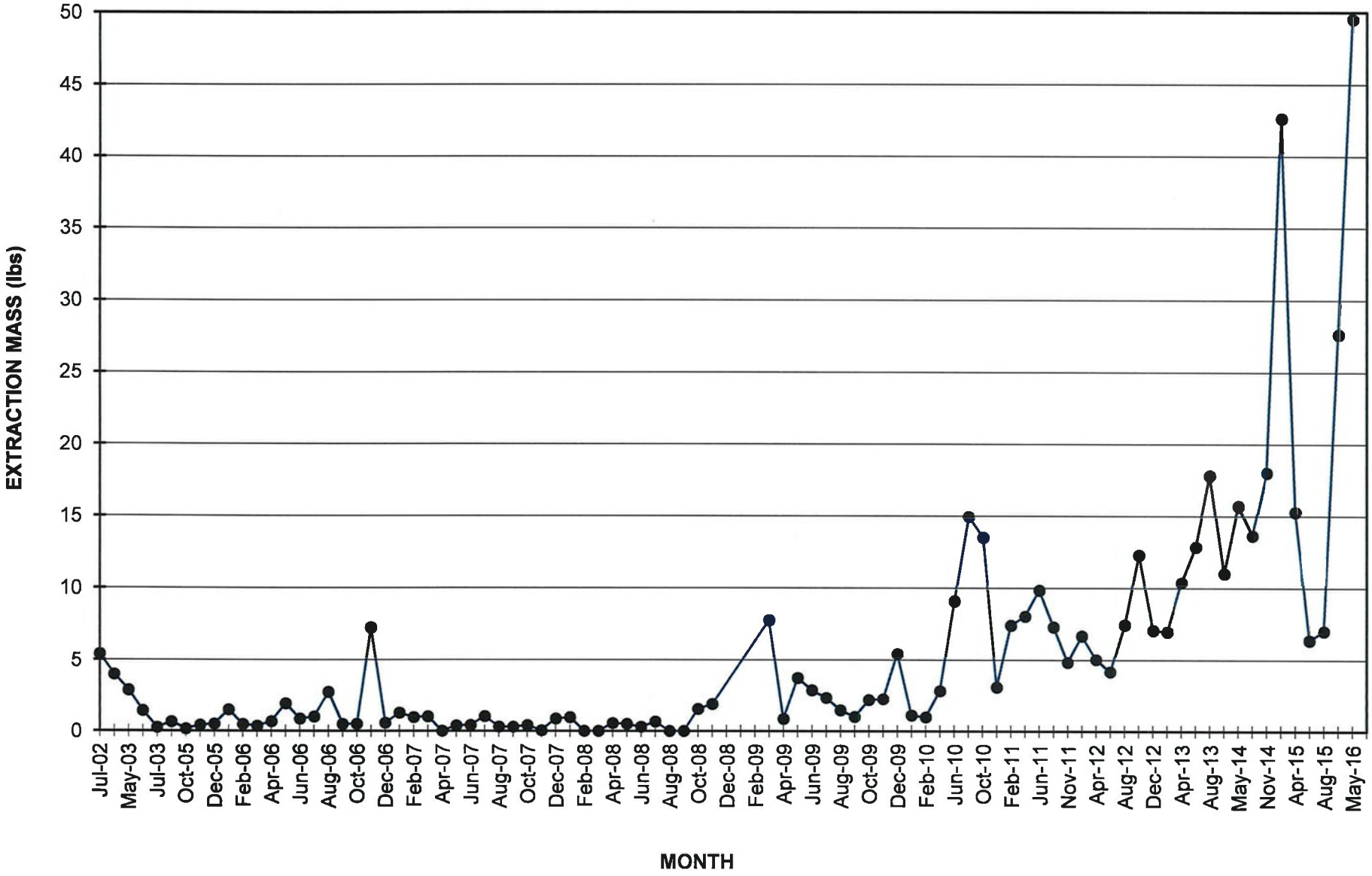


Pulsing procedures since February 2010. Pulsing on-off periods on 1-month basis from February thru May 2014.
Pulsing on/off periods on 2-months basis from June thru August 2014, and since September 2015.

ERTEC

D760634d E155384

VMW-3C (195 FEET)
TOTAL VOCs MONTHLY EXTRACTION



Pulsing procedures since February 2010. Pulsing on-off periods on 1-month basis from February thru May 2014.
Pulsing on/off periods on 2-months basis from June thru August 2014 and since September 2015.

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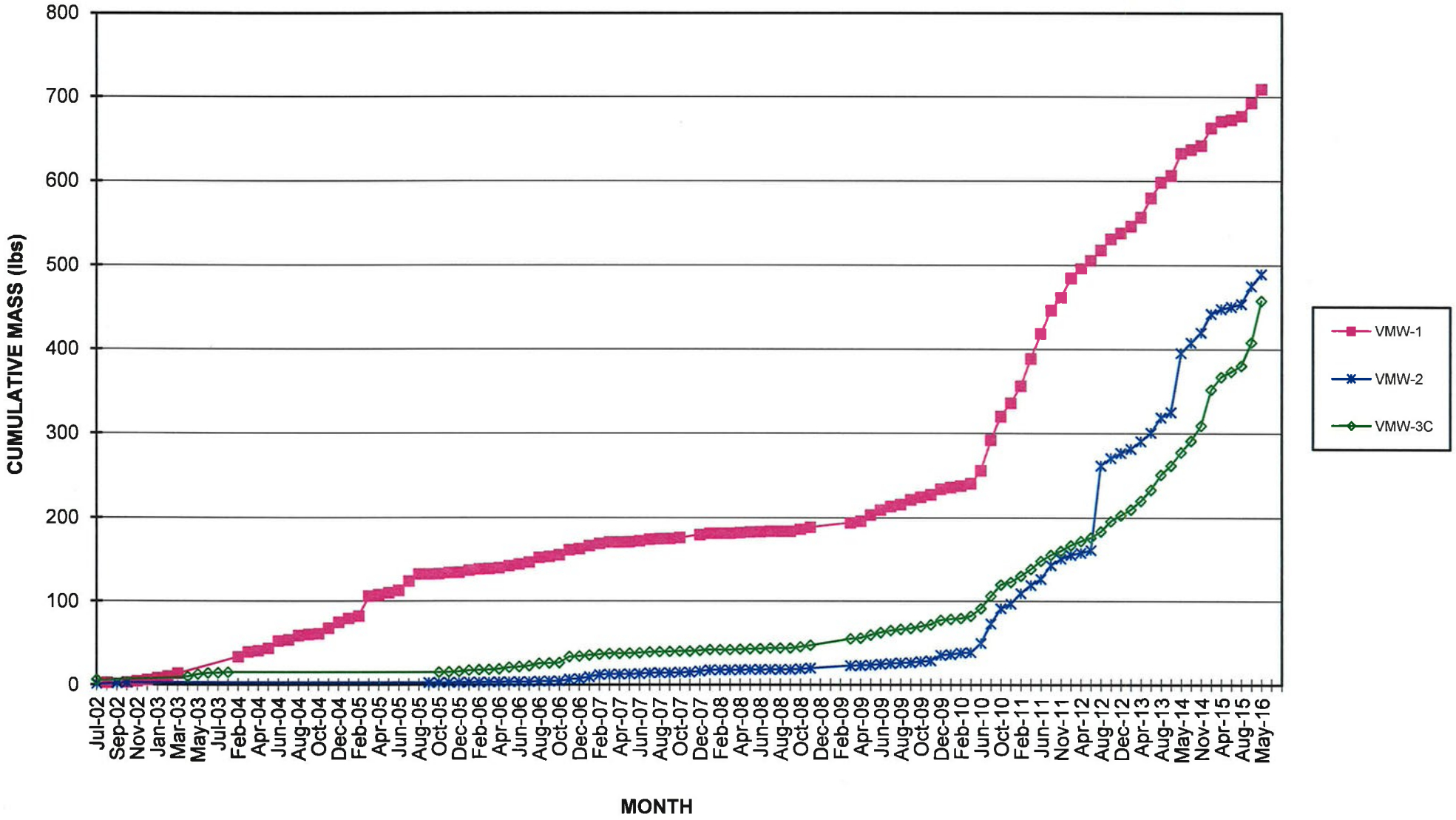
VMW-1 (150 FEET), VMW-2 (170 FEET) AND VMW-3C (195 FEET)
TOTAL VOCs CUMULATIVE EXTRACTION



Pulsing procedures since February 2010. Pulsing on-off periods on 1-month basis from February thru May 2014.
Pulsing on/off periods on 2-months basis from June thru August 2014, and since September 2015.

ERTEC

D760634f E155384